



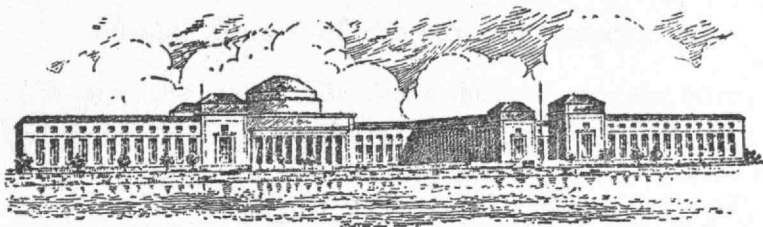
EVERETT MORSS, '85  
Treasurer of the Institute

# technology review

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## THE NEW TREASURER OF THE INSTITUTE

ONE can say no more about Everett Morss than Doctor Little did in his felicitous introduction of him at the alumni dinner. He said all that he could say without quoting from "The Mikado." And if that did not occur to him, perhaps it had better not occur to us (speaking editorially) either.

But if one wants to know what Everett Morss is doing at the Institute, one may read in this issue the inadequate summary of the speech he made at the alumni dinner, his sketch of the economics of Technology and his account of what he and the Administrative Committee are doing to set Technology's housekeeping in order, to make it the place where the most efficient education may be provided for the money available. This is, Mr. Morss, believes, already true, but he intends to make it more true and rub it into the public consciousness.

The earnest of what is promised will be found in this issue in the President's Report, prepared, of course, by the Administrative Committee, with which Mr. Morss has been coöperating. It is full of the same spirit as that expressed by Mr. Morss at the dinner, not so much pre-occupation with education *per se* or educational theory, not so much promise or review of accomplishment, as the indication of very keen desires to take account of stock, to see where we stand, to have the statistics, to eliminate waste, to provide for future exigencies, to make every penny do its utmost work, to spend better by saving better, to make two blades of grass grow where there was one before — to make straight in the desert the highway of the president who is to come.

These are the ideal and the job, apparently, of the Administrative Committee, and, no less, of the new treasurer, the gentleman of many and varied accomplishments . . . (see Little, A.D. "Collected Speeches") . . . whose career, we are sure, could have given points to the author of "The Mikado."

## ANNUAL DINNER OF THE ALUMNI ASSOCIATION

THIS year's dinner of the Alumni Association, held on Saturday evening, January 7, in the main hall of the Walker Memorial, although not marked by any spectacular features, gave every one of the number that comfortably filled the hall a good time and sent them all away with the assurance that faithful and capable hands were at the helm and that, though there were clouds, the silver lining was at its usual post and functioning.

Dr. A. D. Little, '85, president of the Association was at his accustomed best as prologue and interpreter of the personality of the speakers to the audience; the speakers, Dr. Ellwood Hendrick, the distinguished chemist, Dr. Yuen Siang Tsao of Yale and the Washington conference, and Everett Morss, '85, spoke happily and were happily received; the music was better than usual; and "Denny," '11, outdid himself as choirmaster and cheer leader.

The long head table exposed to the gaze of the anonymous multitude the following well-known or distinguished faces: Orville B. Denison, '11; Arthur T. Hopkins, '97; Professor Norton of the Division of Industrial Coöperation and Research; Professor Wilson of the Administrative Committee; Charles T. Main, '76; Dr. Ellwood Hendrick; Professor Talbot, '85, Acting Dean; Acting President Elihu Thomson; Dr. A. D. Little, '85, president of the Association; Dr. Yuen Siang Tsao; Everett Morss, '85, Treasurer of the Corporation; Professor Miller of the Administrative Committee; Edwin S. Webster, '88; Henry A. Morss, '93; James P. Munroe, '82; Horace S. Ford, Bursar; and Prof. Walter Humphreys, '97, a guest.

As the only speaker who was thoughtful enough to have what he was going to say down in black and white, and as his remarks, introductory, interlocutory and incidental, were models of conciseness, wit and charm, we shall lead off with President Little's opening remarks, verbatim.

*Distinguished guests, ladies and gentlemen:* We have rung out the old year. Some of us in the engineering professions would have gladly wrung its neck. To a large proportion of the community it has been a year of strain and struggle and disappointment. To the Institute, in the brief presidency of Dr. Nichols, it brought a great hope, and shattered it. To Dr. Nichols himself the outcome bore the aspect of tragedy. In an effort to express to Dr. Nichols the deep feeling of the alumni and as your representative I addressed to him the following letter:

Dear Dr. Nichols:

The Alumni of the Institute, who have looked forward with the happiest anticipations to many years of cordial coöperation with you in the furtherance of its interests, have learned with profound regret

that these satisfactions must be denied them. In the brief official contact with you, which they have been permitted to enjoy, you have established yourself in their affection and their high respect, and you may be sure that the regard and friendship so securely grounded will follow you and remain with you in whatever environment you may elect to serve the cause of science. We hope and confidently expect that in the prosecution of research, for which you are so eminently qualified, you may find compensation for the disappointment which now weighs so heavily upon us all. I beg you to accept through me the integrated affection and cordial good wishes of the whole alumni body."

To this Dr. Nichols replied as follows:

"I am very deeply touched by your kind letter of November 23 in behalf of the Technology Alumni. Brief as my official connection has been I know them to be a body of able, generous and high minded men. As I had fondly looked forward to working shoulder to shoulder with them in a high enterprise I felt there was nothing worthy which was beyond their power of achievement. It has been thoughts like these that have made my own disappointment hard to bear and there is no man whom it will require greater virtue in me not to envy than my successor in the presidency."

At the very onset of 1921 all friends of the Institute were shocked to learn of the sudden termination of the life and beneficent labors of Professor Sedgwick. He had endeared himself to all who came in contact with him, and his activities were international in scope. He established, as you know, the first biological department in any institution of learning in America and he conferred inestimable benefit on the community by making Public Health a science.

We have also been saddened by the death of Charles R. Cross, Professor Emeritus of Physics and one of the oldest of the alumni, his class being that of 1870. During its formative period no member of the faculty exerted a more profound influence on the development of the Institute or commanded in greater measure the respect of its students. Professor Cross was the first secretary of this Association, and he has written its early history.

But the year of unhappy memory just past has brought some conspicuous benefits to Technology. It has seen the completion of the Pratt School of Naval Architecture and the beginning of the newly established Ordnance School. Despite all obstacles the alumni have moved forward. Coleman du Pont is now a Senator. Our next objective should be the presidency. We can put a Tech man there on a platform of five-cent fares to Havana. Before proceeding to do this it is, however, fitting that upon the occasion of the Annual Dinner we should consider briefly the immediate needs of the Institute itself.

We should bear in mind that the Institute is, very properly, not conducted in the interest of the alumni. It exists only for the good it can confer upon its students and transmit through them to the community. As alumni we serve the Institute best in our works and by upholding its traditions before the world. Our interest in its welfare is,

nevertheless, so keen, our sense of obligation so developed, our desire to be helpful so genuine and deep-seated, and our perspective upon its activities so peculiarly advantageous that we claim and have secured the right to participate in the direction of its affairs. This interest and loyalty of the great and constantly expanding body of the alumni constitutes one of the chief endowments of the school and is, we may confidently believe, recognized as such by its executives. It is, therefore, not out of place for us to say that there are some things which the alumni want. We want a president as soon as a man fitted and qualified to carry the heavy burden of that high office can be found. We may assume without question that our desire is shared by the Executive Committee and the Corporation, by the Administrative Committee and the Faculty. In the face of such unanimity of aspiration I trust that if any of you know the man you will not hesitate to name him. Unless you do, we must await with patience the outcome of the earnest and conscientious endeavor of those upon whom the responsibility of his appointment rests.

It has also been made clear to me that we want an alumni director. It is equally clear in my own mind that before selecting him we should distinctly visualize his functions and sharply define his qualifications. It may aid in your consideration of the matter if I draft the outline of a specification. He should be, as it seems to me, a man young enough to remember the long thoughts of youth, for the vast majority of our alumni are still young men. He should know "when a feller needs a friend" and how to be one. He should have temperament and enthusiasm and imagination and the power to arouse an enthusiasm in others that persists beyond the cheers. He should be old enough to have acquired experience through broad and varied human contacts and with experience the ability to organize and persuade. He must know the mental habits of men of affairs and be sensitive to the predilections of rich old ladies.

If he is to work at high efficiency in the mutual interest of the alumni and the school, such a man, if we can find him, must, I believe, stand before the community as the joint representative of the Alumni and the Corporation of the Institute. He must work in understanding sympathy with its president and in furtherance of his general policies. His activities will be directed not only toward securing the solidarity of the alumni but to the enhancement of the prestige and the recognition of the needs of the Institute in all the widely separated communities in which our alumni gather. If you believe with me that this is the type of man we need and if you sense, as I do, the opportunity before him, you will not be precipitate in your selection.

I was walking across the Harvard Bridge the other morning when I came across three workmen near the draw. Their activities were at a standstill, but I thought I detected a revival of interest at my approach. When I came up with them one stepped forward and with an accent of hope in his voice said: "Say, Mister, have you got a piece of string? We want it to fix this bridge."

Now we can't go on indefinitely supplying string to fix up Harvard Bridge. We want, as I have said before, a new bridge with no string to it, and we want it called "Technology Bridge."

How happily dignity, beauty, and utility may be combined in a structure worthy of this name and setting the distinguished architect and Institute alumnus, Andrews, '77, has demonstrated in the drawings which many of us were privileged to see at the last meeting of the Alumni Council.

With an enrollment, which reached this year a maximum of over 3500 students, we do not hesitate to say that we want new dormitories. Nothing could be more grateful to the eye than the beautiful buildings in which we now house 170 students. They are an admirable evidence of good intention. They serve to inspire hope in the optimistic freshman that some day he may enjoy their comforts and have the benefit of the environment which they supply. But after four years of migratory residence in the South End he realizes as a senior that hope is a good breakfast but a poor supper. It has, to put it squarely, become obvious that nothing short of a development comparable to the Harvard Freshman Dormitories can be in any way adequate to the immediate demands of the pressing situation.

Dr. Johnson once said in his characteristically dogmatic fashion that "four good wants ought to last a man a year." A president, a bridge, an alumni director, and new dormitories is perhaps a reasonable allowance, but some of us want still more. Professor Rogers wants distinguished guests and lots of 'em. He points out that we missed a chance when General Foch came to town to have him stop at Tech and teach the young idea how to shoot. Dr. Rowe wants a choral society, in which alumni and undergraduates may fraternize and sing. He ought to have it. Others of us feel the need of some stimulating and coördinating agency to encourage and bring into harmonious accord the efforts to beautify the Institute and its surroundings.

Conscious as we all are of the pressing urgency of these desires and the benefits which their realization would ensure, are we not in our relation to them in the position of the small boy who with his sister was hurrying on his belated way to school? The sister, who was some distance in the rear, was concerned to see him drop upon his knees and said, as she hurried up, "Johnny, what are you doing?" "Praying we sha'n't be late to school," said Johnny. Whereupon the practical sister replied with some impatience and much wisdom: "Get up, Johnny, get up and hustle. You can pray as you go."

A telegram was received from one who was in everybody's thoughts, one who never missed an occasion of this sort. "Sorry I cannot be with you. With all good things to everybody." (Signed) Alfred E. Burton, Carmel-by-the-Sea, California.

Dr. Little then proceeded to introduce the first of the speakers, Dr. Ellwood Hendrick, as follows:

"There has come to us from New York a delightful individual, who is at once the exponent and the expounder of the human side of

chemistry. Other chemists gain distinction by determining atomic weights or synthesizing rainbows out of coal tar. He catalyzes sympathy and understanding and good fellowship wherever he makes contacts with other human beings. No gathering at the Chemists' Club, which he long served as president, is complete without his genial presence. When he is not editing a great technical journal he is writing wise and charming essays on *The Professor Emeritus*, or *The Chemist of the Future*, or *Saul of Tarsus*. You see he knows all sorts of people, and chronology counts for nothing in his friendships. He has written a book, 'Everyman's Chemistry.' Even the architects would be interested in the chapter on *The Red-headed Halogens*, in which Fluorine is the young devil and Iodine the old man with a past. But gentlemen, and I must warn you also, ladies, our next speaker makes friends for himself more quickly than I can hope to make them for him. I take especial pleasure in presenting to you the Abou ben Adhem of Chemists — Dr. Ellwood Hendrick."

Dr. Hendrick, a burly, imposing figure, like some gray-haired, ruddy-faced statesman of the Civil War period, proceeded to expound with dry allusive humor a sort of "Anatomy of Millionaires," a satiric study of the genus, addressed (ostensibly) to Tech engineers, who are all millionaires, *in esse* or *in posse*, to teach them how to approach the real thing and make the most of him. The speech was really an acute analysis, thinly veiled by its humor, of the hyperpractical mind of the "big-business" or "big-banking" man; their fundamental nervousness, their distaste for socialists, their hatred of taxes, their immobility, their penchant for luncheons, their need to feel superior and how to get round it, their lively sense of other people's ingratitude, their faith in efficiency or near-efficiency experts, their weaknesses, foibles, vanities and blind spots. It is a pity we couldn't get the doctor's manuscript, if any. It would be worth reading.

Dr. Little then introduced the second speaker.

"Only a second away from us, as wireless messages go, is a great and ancient people. They number some four hundred millions. They were dressed in silks and fine embroideries when our ancestors thought themselves lucky to wear skins with the fur side inside. They had a rich and copious literature, a comprehensive system of morals and philosophy, an amazing technique and fine appreciation in art, courtesy and culture and the fine flowers of civilization thousands of years ago when our illiterate forbears were scarcely more than savages. They are a pacific people who honor the teacher above the soldier. They are a business people, and they conduct business on a plane of honesty and shrewdness, which is an example to all the world. Obviously, with such a background, with an experience that reaches through the ages, with an alertness and intelligence that is nowhere surpassed, they have solved many problems and they have many things to teach us. The pressure of our own immature civilization has involved them in new problems. Our duty and our interest alike demand that we should do our utmost with sympathy and understanding to aid in their solution. The sympathy we



already have; the understanding in full measure we are anxious to acquire. We are, therefore, peculiarly fortunate tonight in having with us a Chinese gentleman who is not only in close contact with high affairs of state, but who knows America and the American point of view, a graduate of Yale, and the son of a father who fought for the Union in our Civil War, Dr. Yang Siang Tsao, Assistant Secretary-General of the Chinese Delegation now in this country and Councillor of the Ministry of Foreign Affairs, Peking."

Dr. Tsao, young, slender, immaculate in evening dress, speaking beautiful English with a feeling that seemed at times almost passion, received the warmest welcome of the evening, and at the close of his speech was cheered again in a way that showed that Tech men were entirely in sympathy with his mission and with his country's cause at Washington.

The decisions of the Conference at Washington, said Doctor Tsao, depended largely on bodies of men like this for their fulfillment. Technology has 65 Chinese at present; 75 had in the past returned to China where, although they were handicapped, they were doing great things. Forty out of the 140 delegates from China to the Conference had been educated in America. Americanized though they were they were felt to represent China, and young as they were, they were trusted by their elders in charge of the delegation as trained to understand the western mind. On their young shoulders rested a heavy responsibility for the future happiness of 133 millions of people.

Doctor Tsao continued with an elegant and poetic contrast of America with China, the oldest and weakest country and the youngest and strongest. By the revolution of February 12, 1911 there were linked together in history the birth of the Chinese Republic and of Abraham Lincoln. Ever since Anson Burlingame, first minister to China, down through John Hay and later statesmen, China had always recognized America as her friend. He then went on to point out in some detail the justice behind China's demands, notably concerning Shantung and the famous twenty-one points, declaring that China understood justice even although she could not enforce it. China did not look for the millenium, he said, but she did hope — and she thanked America for the opportunity offered by this conference.

Doctor Tsao sat down amid generous and sincere applause, and shortly after left the hall, as Doctor Hendrick had done a short time before.

Doctor Little then proceeded to tell a story, the purport of which became clearer as he followed it with the introduction of the last speaker.

"A salesman sold a bill of goods to a merchant in a small town. They were returned as not satisfactory. The wholesale house undertook to collect anyway, and drew a sight draft on the bank at the customer's town. The bank returned the draft unpaid. Then the house wrote to the village postmaster and asked if the merchant was good for the amount of the bill. The letter was returned O. K.'d at the bottom. Next the

postmaster was asked to put the bill in the hands of a local lawyer for collection.

"The answer received by the wholesalers ran as follows: 'The undersigned is the merchant on whom you tried to palm off your worthless junk. The undersigned is also president of the bank that returned your draft. The undersigned is the postmaster to whom you wrote, and also the lawyer whom you tried to get to collect your bill. And if the undersigned were not also the pastor of the local church, the undersigned would tell you to go straight to the devil.'"

"Our program has now reached a point where I find myself confronted with difficult questions of precedence. There are several speakers to follow: a past president of the Almuni Association, a member of the Corporation, a mining engineer who has forgotten all he ever knew about mining, a successful manufacturer who can tell us all we want to know, and more, about wire and cables and how much cheaper electric heaters are to operate than gas stoves, one who has long been a most active and effective member of the Executive Committee, the President of the Boston Chamber of Commerce, and the new Treasurer of the Institute. In what order should I present them? Shall the President of the Chamber of Commerce precede the Treasurer of the Institute? Should you listen first to the member of the Corporation or to the past president of this Association? Shall a mining engineer with a bad memory take precedence over a manufacturer who knows how to draw things out? The problem, I confess, is too much for me. I shall cut the Gordian knot by presenting the speakers collectively. I believe you have met him before. — Mr. Everett Morss."

One could almost hear the familiar music of "The Mikado" as the Pooh-Bah of the Institute, Lord High Treasurer and Lord High Everything Else, rose. Mr. Morss filled the large room better than his predecessors, and his forcible, penetrating Yankee delivery held everyone to the closest attention, the more so as he was the first speaker of the evening, not counting the toast-master, to talk of things important to Technology men.

After a humorous reference to his gruelling experience last year on his swing-round-the-circle with the Georgia Tech party, Mr. Morss spoke fittingly of the Corporation's regret at Doctor Nichols's resignation, with a warm tribute to the grit and spirit of the Administrative Committee, in shouldering the heavy burden after over a year's hard work, resolved to keep going as long as need be. He also admitted that the Corporation had got nowhere as yet in choosing a new president and asked that any Technology man who had an idea of a possible candidate would do the Corporation the very real favor of sending his name along. He also, in speaking of his taking over the financial reins of the Institute, paid high praise to the achievement of Francis Hart over twelve years as treasurer and admitted that it would be a hard task to live up to his predecessor.

The body of Mr. Morss's speech was an account to the interested alumni of his view of the Institute as a large business corporation and



what was being done to make it more efficient. The figures are about as follows: A thousand people on the payroll; 3,500 customers; a plan worth eleven millions, with investments of fifteen millions. The cash transactions last year were three and a half millions. The expense of educating the students was two millions, with a deficit of \$34,000 besides what was put into the plant. The receipts from fees were about one million, the out-go for instructors' salaries was also about a million, the two balancing just about as they had ten years ago. The administration cost \$260,000 and the operation, \$385,000, a great increase proportionately in the last ten years. For instance, the coal bill for last year was \$130,000 as against \$50,000 the first year in the new buildings. A plant of such magnitude doing such a large business must obviously be run the most efficient way. Already we have been educating 3,500 men in a plant built for 2,000 and can, if need be, with the new Pratt Building, take care of more.

It costs on the average \$525 to educate a single student. Eventually Mr. Morss said, he hoped to know the cost per class and per course, and the proportionate costs of various smaller divisions of the student body. He hoped to know the exact costs of everything knowable about the Institute, on the ground that the most expensive education does not necessarily mean the most efficient, and that figures, when shown, always reduce costs, and that costs are usually too high, even although he believed that Technology was probably at the head of the list in point of efficiency of all the colleges of the country.

Technology must have more money and our best argument to get it is that we are spending what we have with the utmost economy and efficiency. Technology must have the reputation of Hoover, that 98 per cent of the money given to it is effective. The concrete reductions and arrangements must, of course, be left to the educators who know the problems, but there are a great many things at present being left undone for lack of money which could as well be done by more efficient use of the money we have. We can do better than we are doing and by increasing our leadership in this regard, force other institutions to follow our example.

At the close of Mr. Morss's speech, Doctor Little gave the signal for adjournment by bidding everybody a Happy New Year, adding, "And don't forget to hustle while you pray!"

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## SHEFFIELD SCHOOL LOWERS TUITION FOR GOOD STUDENTS

THE tuition of seniors of high standing at the Sheffield Scientific School at Yale will be cut one hundred dollars as the result of the vote of the Yale Corporation at its November meeting. Yale is the first large American university to offer an incentive of reduced tuition for merely attainment of high scholarship.

# SELECTIONS FROM THE ANNUAL REPORT

Covering the school year 1920-21

## REPORT OF THE PRESIDENT

(Prepared by the Administrative Committee)

### *To the Members of the Corporation:*

In accordance with the by-laws we beg to submit to your Corporation a report of the affairs of the Institute, appending, as usual, reports prepared in coöperation with other administrative officers with reference to the work of their special departments.

*The Election of the President.* The outstanding event of the year was the election on March 30, 1921, of Dr. Ernest Fox Nichols, Director of Pure Science, Nela Park Research Laboratory, as seventh President of the Institute in succession to Dr. Maclaurin. Friend, admirer and former colleague of Dr. Maclaurin, experienced to an unusual degree in teaching, research and educational administration, President Nichols comes to the Institute, which his friend had rebuilt, and to whose re-endowment he gave his last strength, and dedicates himself to carry forward his predecessor's work. The inauguration, held on June 8 in Walker Memorial before an audience filling the hall to overflowing, was very impressive. Through the installation of the recently perfected telephonic amplifiers, the many who could not gain access to the hall were able, nevertheless, to hear all the addresses from the greensward in front of the building. An account of the ceremonies may be found in the TECHNOLOGY REVIEW.

It was a great shock to all Technology men and to the many others who are interested in the Institute and who look to it for leadership in scientific and engineering education to learn that shortly after the inauguration President Nichols, while taking a brief rest before returning to Nela Park for his few final weeks of work there, was taken ill as a result of having already unwittingly worked beyond his strength. The many testimonials of affection and expressions of concern which have steadily flowed into the President's office have borne witness to the unanimous longing for his prompt recovery.\*

*Changes in the Corporation.* During the interval since the last annual report the Corporation has lost one member by death — Mr. Hiram F. Mills. The Term Members retiring in 1921 were Messrs. Harry J. Carlson, Henry J. Horn and Dr. Samuel J. Mixter. The new Term Members are Col. Frank L. Locke, Messrs. Leonard Metcalf and Van Rensselaer Lansingh. Mr. Harry J. Carlson was elected a Life Member of the Corporation on March 9, 1921.

\* Since the presentation of this Report of the Corporation, President Nichols has informed the Executive Committee that, acting upon the urgent advice of his physicians, he must ask to be relieved of his office.

*Losses in the Faculty.* The Institute has suffered in the sudden death of Prof. W. T. Sedgwick on January 25, 1921, a loss greater than that alone of a gifted leader these well-nigh forty years within her halls. Ever alert alike to the inspiration of student or colleague and to the awakening of his State and Nation to human conservation, Sedgwick belonged to humanity at large. Braver than many realized, beneath his cheering smile he had struggled for several years to conserve his somewhat shattered physique that he might express from it the last drop of service to mankind.

By resignation the Faculty loses Dean A. E. Burton and Prof. Dwight Porter, each after about forty years of service. It is regretted that they found it advisable to retire at so early an age. The classes of the near future would have profited by their guidance, as have the classes of the past decades. Dean Burton needs no encomium other than the statement that he has made the office of Dean of Students and student government what they are at Technology and that his policies will never lightly be abandoned. As the life of President Walker was in his Faculty and his Faculty lived in him, so the life of Dean Burton has been in successive generations of the student body and the students and alumni have learned to live more abundantly through him. Although fewer students came in contact with Professor Porter, those who were privileged to sit in his classes will remember him as a particularly fine type of teacher, gentleman and scholar.

No permanent appointments have been made to replace any of these three losses; that problem remains for the new administration. Prof. H. P. Talbot has undertaken the duties of Acting Dean during the year 1921-1922.

On January 1, 1921, Dr. W. H. Walker retired by resignation from his position as Director of the Division of Industrial Coöperation and Research, which he had been so largely instrumental in establishing under the so-called Technology Plan. It was only under great pressure from President Maclaurin that he had consented to hold the office for the initial year. His energy and effectiveness have left a deep mark upon the work of the Institute. We were fortunate in persuading Prof. C. L. Norton to undertake the directorship. So prostrate has been the condition of the industries during the past year that no real test has been made of the effectiveness of the Plan, in providing either personnel or the solution of research problems for the industries or in supplying additional opportunities for research and outside contacts to our teaching staff; but enough has none the less been accomplished to be a bright harbinger of wide success in all these directions in the near future.

*Financial Status.* The details of fiscal operation are to be found in the report of the Treasurer. It is desired, however, to draw attention at a number of points. The Institute has operated in each of the past two years at a deficit, which, though small compared with the total income and outgo, is still equal to the income return on more than \$500,000. There has been a decrease of current surplus during the past year from about \$95,000 to about \$60,000. It is to be noticed that the increase

in tuition fees paid was \$160,000, part of which was due to the number of students paying \$300 compared to those paying \$250, but the larger part to the gain of approximately 350 in the total number of students; roughly speaking \$60,000 was due to increase in tuition per student and \$100,000 to increase in total registration.

The increases in payments to teachers were \$275,000 — a much larger sum than the gain in tuition. The result has been a rise in the cost per student from about \$500 to about \$575. It therefore appears that practically all of the increase in cost per student figures in additional payment for instruction and little in additional overhead. Moreover the rise of \$75 in cost is 50 per cent in excess of the very moderate increase of \$50, or 20 per cent in tuition charges. In view of the much larger increases in tuition effective in many institutions and the particularly expensive form of instruction by laboratory methods, which from our very foundation has been characteristic of our educational policies, it has been resolved to put into general effect fees in all regular undergraduate laboratory courses. The estimated new income from this source is about \$100,000 per annum, of which \$10,000 has been appropriated to the use of the Committee on Undergraduate Scholarships, and \$25,000 for a reduction of charges for supplies to students, making the net additional cost per student for tuition about \$20 per annum.

*Number of Students.* The student body continues to increase in size. This is in part due to the effect of the wave which came in with the Student Army Training Corps. The class of 1922 has contained in its successive years about 850 freshmen, 1050 sophomores, 1000 juniors and 850 seniors. The following classes have been smaller than this and the indications all show that with the passing of the present senior class the numbers enrolled at the Institute will decrease. With such a major surge over, it is likely that the Institute will have fairly stable numbers for several years. The educational buildings, now reinforced by the addition of the completed Pratt Building, have sufficed to carry this large class of 1922; it is not likely that they will be so severely taxed for some time.

Looking into the future it may be said that no major additions to the educational plant are immediately urgent. The matter is entirely different with respect to dormitories. With the increase of 1500 in our student body, coming at a time when building has been at a standstill, housing conditions for our students are far from what is desired. Dean Burton has called attention to our responsibilities in this respect and it must be expected that the arguments which he presented will be reiterated until adequate facilities are provided. It is certain that we have to face a building program for dormitories comparable in magnitude with the new Harkness Memorial Quadrangle at Yale or the block of Freshman Dormitories at Harvard. The problem is the more serious because building costs are so high that there is little hope of applying liquid investment capital to dormitory construction with any prospect of a rental return justifying such investment. The report of the Treasurer shows that the net income return from our present dormitories

is only about 1.6 per cent on the equity valued at \$200,000 which we hold above the mortgage of \$150,000 at  $5\frac{1}{2}$  per cent. Although the dormitory income account should show a better yield next year because of the increased rentals that have been put into effect, that yield is likely still to be below what is obtainable from seasoned investment securities.

Another problem, less urgent perhaps but very persistent, which lies before your Corporation will be found in a rising cost of instruction. It is a familiar phenomenon of industry that when demand outstrips supply and prices are rising one hears constantly increasing complaints of the inefficiency of the laborer and of rising costs until the crisis sets in, supply exceeds demand, unemployment follows with increased efficiency of the laborer still employed and costs of production decline. In many respects the course of educational business is directly antithetical to this. The first reaction of a Faculty to an increased number of students is to load the members of the Staff with more hours of instruction per week and further to increase the load of student hours by enlarging the size of the classroom sections. The result, granting a fixed salary scale, is a drop in the cost of instruction and a gain in the "efficiency" of the instructor — though usually not without compensating losses of effectiveness of instruction and further sacrifices of that opportunity for individual research and consulting practice which redounds even more to the permanent credit of the Institute than to the transient reputation of the individual. Once the number of students is stabilized, the staff unloads and costs of instruction rise.

To see how matters have worked out in the past and form an idea of what must be expected in the next decade reference may be made to the statistical tables accompanying the report of the Registrar. The last rapid but relatively moderate rise in numbers culminated in 1902 with 1608 students. At this time the Instructing Staff (omitting research assistants and associates and lecturers) numbered 164, or 1 to 9.8 students. In the next four years the student body fell by more than 200 to 1397 while the staff steadily increased to 215, yielding a ratio of one teacher to 6.5 students. With the ensuing slow increase in students the ratio became stabilized at about 1 to 7.5. But the course of the ratio of staff to students by no means tells the tale. The first relief from a heavy load of students is found in adding to the staff largely at the bottom rather than at the top. Promotions to permanent positions are slow and their effect on the distribution of the staff is delayed. Thus in the year 1902-1903, when the number of students reached its maximum, the ratio of the number of permanent officers in the various professorial grades to the total number of (non-professional) instructors and assistants was 64 per cent, but fell to 50 per cent two years later and might perhaps have become stabilized at about 60 per cent had not the slow insidious effect of promotion asserted itself. As a matter of fact during the five academic years, 1908-1913, the percentage was fairly stable about the figure 78 per cent. The ratio of students to professors (of all grades) in 1902-1903 was 25 to 1, whereas during the



whole decade, 1908-1918, the ratio was reasonably steady at around 16 to 1.

To draw your attention in this report each year to such dull matters as the statistical relations between the staff and the student body and to such uninspiring ideas as costs of education would be inexcusable, but we stand today at the Institute in a peculiar position, owing to an extraordinary influx of students such as happens but rarely, and we stand in the world at large in an economic situation that arises only once or twice per century. If events are to follow their natural course with respect to immediate increase in staff and subsequent increase in the higher grades, the chance amounts to practically a certainty that we must be prepared to raise large additional endowments for salaries or materially to increase our tuition charges, or (particularly if the number of students should seriously diminish) even to be resigned to reductions in our salary scale for permanent officers. Each of these three expedients has been used at the Institute in its half century of existence and by other institutions during the same period. It is the privilege of intelligent foresight to mitigate disagreeable events by contemplating them long enough in advance to prepare the necessary palliatives.

*Summer Activities.* It is a matter of social economy that the large investment in the Institute's plant and equipment for education and research should not lie idle for three and a half months each year. Successful efforts have been made toward an increase of activity during the summer with the accompanying benefit of a distribution of general expense over a longer portion of the year. The summer session has been strengthened by offering new and more advanced courses, the enrollment has increased, and the quality of the student body during the summer has improved. Further expansion will, however, be necessary before all of the staff who may desire to teach during some of the vacation months can be employed. The Division of Industrial Coöperation and Research operates the year around, and its operations are aided by having accessibly in residence a larger fraction of the staff. The research laboratories of electrical engineering, of physical chemistry, of applied chemistry, of industrial physics, and of aerodynamics are now all running throughout the year.

*Advanced Study and Research.* The Institute is becoming more and more a graduate school. For many of our undergraduates the Institute courses leading to the S.B. degree are postgraduate study; 15 per cent of our students already hold a Bachelor's degree. The percentage of students seeking the Master's and the Doctor's degree is increasing, the actual numbers were 91 two years ago, 176 last year and will be higher the coming year. For many years the United States Navy has sent officers here to take the Constructors' Course XIII-A. The United States Army is now using our facilities for advanced instruction to an increasing degree; the Air Service, the Ordnance Department and the Engineer Corps were well represented last year, and for the coming year in addition the Army has transferred to us from Aberdeen

the Ordnance School of Application and is to transfer the instruction in gas engines, tanks, and tractors.

Under various contracts and special arrangements important investigations in chemistry, physics, engineering and aeronautics are being carried on for different departments of the Federal Government, in some cases by officers detailed for the purpose, but more generally by members of our instructing staff. The great activity in individual research has led to the establishment of our *Journal of Mathematics and Physics* under the management of a committee representative of our departments of Mathematics and Physics and our Research Laboratory of Physical Chemistry. A Research Laboratory of Industrial Physics has been established, better arrangements for advanced instruction and research in Metallography have been made, and in our Aerodynamical Laboratory the old 4-foot wind tunnel has been rebuilt and a new 7½-foot wind tunnel is under construction.

The School of Chemical Engineering Practice, X-A, the coöperative course in Electrical Engineering, VI-A, undertaken with the General Electric Company and the Edison Illuminating Company, and the graduate course in Aeronautical Engineering, have all been strengthened during the year. At the solicitation of the United States Fisheries Bureau and of leading interests in the fisheries industry and with their active support the option in Industrial Biology has been revamped to be more effective in training young men for the diversified interests of the fisheries industry and of the manufacture and conservation of food products in general. The option in Railroad Engineering has been broadened into an option in Transportation Engineering and an option in Hydro-Electric Engineering has been added. Leading organizations in the oil and leather industries have approached us relative to the establishment of courses or options in existing courses, through which students may be better trained for the special scientific and engineering necessities of these two fields. It is obvious that with the increasingly intensive application of science and engineering to industry the Institute will be urged more and more to undertake specialized training in many directions. It will be necessary for us to be somewhat on our guard against tendencies to undermine the general effectiveness of our curricula by a too early attention to detail or to burden unduly our financial structure by the multiplication of small special courses. Fortunately the industrial leaders who are raising questions of special training are primarily interested as we are in establishing first a broad fundamental and resourceful education upon which to build and are manifesting a helpful willingness to bear their just share of the added cost of the overlaid specialization.

H. P. TALBOT,  
E. F. MILLER,  
E. B. WILSON.

#### DIVISION OF INDUSTRIAL COÖPERATION AND RESEARCH

The Division of Industrial Coöperation and Research, established to fulfil its obligations under the contracts of the Technology Plan has

now been in operation for nearly two years. The latter portion of that period has been coincident with such an unusual period of financial depression that it is not possible to estimate accurately the extent of the normal activity of the Division, but sufficient experience has now been had to enable us to estimate, in large part, at least, its opportunities and limitations.

By its effect upon the educational efficiency of the Institute must the plan finally be judged, and from this point its success has, I believe, been proved beyond question. The operation of the Plan, by bringing the men and problems of industry more closely into contact with our instructing staff, has been of great mutual benefit. This has, moreover, been done without an expenditure of time or effort of such magnitude as to threaten the efficiency of teaching. Under its operation problems in both pure and applied science are being studied under conditions which appear to be helpful to the staff and students. It has been the purpose of the director of the Division to encourage the teaching staff to undertake such research problems as presented themselves to the Division and to seek an equalization of teaching load as would make such arrangements possible rather than to develop special research laboratories or engage special workers for research. The coöperation of the entire Faculty in carrying out the work of the Division, in this way, has been enthusiastic and wholehearted, and a source of constant encouragement and inspiration to the director.

The working out of the Plan from the point of view of the contracting companies has been complicated by the extraordinary industrial depression, causing the postponement of much research and development work. Some of the contractors are in almost daily contact with the officers of the Division or personnel, library work, consultation or research. Others are engaged through the Division in prolonged research; while some come to the Division only at infrequent intervals for unusual problems. The number of inquiries and problems, and the general closeness of contact with the contractors are increasing. The use of the library both by personal visit and by mail is increasing, and more definite arrangements for coöperating with other scientific libraries have been completed.

There are at present some twenty-five serious prolonged research problems being studied through the Division and shorter investigations in large number. Some are researches in pure science for which a fund of \$10,000 is available and to which has been added \$4000 for study of a special problem in Physical Chemistry. Not infrequently the investigations have involved work both in the laboratories of the Institute and the plant of the contracting company. Such problems as are most properly undertaken at Technology, because of the peculiar fitness of its equipment or the special knowledge and experience of some of the members of its staff, are worked out in our own laboratories, but there is the fullest coöperation with consulting engineers and chemists, to whose laboratories the Division refers problems which may best be so handled and from whom come many of the most interesting and important problems.



In order to properly meet our obligations to the contractors in assisting them to secure information as to alumni who might be available for positions which they were interested in filling the so-called "Who's Who" list of last year was checked by mail so that our files of former students have been brought up to date. The closest coöperation with the heads of the departments is sought in all matters relating to personnel. The Division keeps in close touch with the personnel staff of the Engineering Societies.

The most striking development of the year is the extent to which the Division of Industrial Coöperation and Research has become the real point of contact between Technology and industry on matters relating to science and engineering. As a result of the wide publicity given to the Technology Plan it has become generally known that there is at Technology an organization from which help may properly be sought on industrial problems, that such questions are welcome and that the Division will endeavor to put the questioner in touch with such references or consultants as may aid him. So far as it may be done without injury to the interests of the contractors these queries are handled by the organization which cares for the questions coming in under the Plan. The questions from non-contractors are increasing more rapidly than the similar inquiries from the contractors, and they are coming from other countries as well as from all parts of our own. With the return of normal industrial conditions many of these non-contracting firms will undoubtedly become regular contractors under the Plan. The reaction of this branch of the Division's work is of material help to the Institute in that it greatly widens the field in which the Division functions. Further, the existence of the Division centralizes and systematizes the somewhat haphazard treatment of requests and inquiries of the past.

The Division is becoming more and more the clearing house at Technology for those interested in industrial operation. Whether it be the arrangement of the working schedule of the son of one of its officers who comes to Technology as a student, the analysis of some unusual industrial accident or explosion, or the identity of some newly discovered process or mineral, the contractors under the Plan and many others in industry have come to consider the Division of Industrial Coöperation and Research their most natural point of approach, and it has been the effort of the Division to make such response as will extend the field of usefulness and influence of the Institute. — C. L. NORTON, *Director*.

#### REPORT OF THE REGISTRAR

The registration for the past year was greater than at any other time in the history of the Institute. The gain over the last year was about 12 per cent, not as great as the extraordinary increase of students in the year previous. The number of students on November 1 was 3436.

The total number of active members of the Instructing Staff rose to 375. The ratio of the number of instructors to the number of students was 1 to 9; the year before it was one to a little more than ten.

In the student registration, the largest group was the third-year class, which was within five of 1,000 students. The fourth-year and the second-year classes were both larger than the first-year class, which numbered 689. The number of candidates for advanced degrees, 176, was almost double that of the year previous.

Among the professional courses, Mechanical Engineering was larger than any other. It is followed in size by the Course in Electrical Engineering, next by the Course in Engineering Administration and then by that in Chemical Engineering. To include the courses having more than 350 students, Civil Engineering should be added to this group. Among the larger courses, the percentage gain in Electrical Engineering and Chemical Engineering was greater than that of the student body as a whole.

The number of students from other colleges was high; the proportional increase in this number being greater than that in total registration. There were in the past year 1302 students from other colleges, or 38 per cent of the student body. Fifteen per cent of the student body held degrees from other colleges. The graduates from other colleges represent 137 American and 57 foreign colleges and universities. Among the professional courses excluding Chemical Engineering Practice and Naval Construction in which all of the students are college graduates, the courses in which the percentage of college graduates is greater than the percentage of college graduates among the total student body are Civil Engineering, Architecture, Chemical Engineering, Biology, Physics, Sanitary Engineering, Geology, and Electrochemical Engineering. The total number of students in the Engineering Courses gained 10 per cent, while the percentage increase in registration in the Science Courses was 19 per cent. The respective numbers are 3070 and 318.

The number of women students, in spite of the increase in registration, dropped from 40 to 38.

In reviewing the geographical distribution of students for the past year, it is interesting to note that the percentage increase of foreign students was greater than that of the whole student body, the percentage of foreign students being 7.8 per cent.

Among the geographical divisions of the United States, all sections except the North Atlantic have a greater percentage increase in the number of students than the percentage increase of the total student body. The gain from the South Atlantic and the North Central States is 24 per cent in each case. All States and Territories of the United States except Alaska are represented in the student body. As usual, the number of students from Massachusetts is the largest, 1516 in number, but this number is one less than a year ago in spite of the increase in the total registration. Next to Massachusetts, New York sent the greatest number of students with its delegation of 341. Two hundred sixty-seven foreign students represent 37 countries, the largest group being 58 from China. By order of number of representatives, Canada is second with 41 and Norway third with 30 students.

While the age of first-year students according to the computation

made last year was higher than the average for the past twenty years, the age of the first-year students this year has dropped a little nearer to the former average.

During the past year the Junior Grade of the First-Year Class was omitted, but it is advertised to be renewed in January, 1922.

The Scholarship Committee of the Faculty recommended awards of \$34,122.50 to undergraduate students. There were 556 applicants for scholarship aid; 220 received awards from the Institute and 132 received State Scholarships; 99 of them held one-half Scholarships. A total of 352 students received aid. This is the last of State Scholarships.

During the past year another study has been made of the relative standing of students. This year the result shows that the relative standing of the first-year class was lowest and that of the third-year was highest, the second-year class stood next and the fourth-year class was third in order. The positions of the several classes differ entirely from those of earlier studies. Again the average standing of members of fraternities is slightly lower than that of the student body as a whole. The purpose of this study was to determine the relative standing of the various fraternity chapters at Technology. The Inter-Fraternity Council awards to the chapter having the highest scholarship standing a certain hall clock which stands in the house of the chapter. The relative standing of fraternities has varied considerably in each study.

During the past few years there have come to the Institute repeated demands from the central organizations of fraternities requesting a report upon the academic standing of their chapters at the Institute.

—WALTER HUMPHREYS.

## THE NEW "TECHNOLOGY" BRIDGE

### Congressman F. W. Dallinger wins fight

CONGRESSMAN F. W. DALLINGER won the first step of a fight for a new Harvard bridge when he succeeded in effecting the adoption by an almost unanimous vote of his House Resolution 6152 providing for a new drawless structure over the Charles River Basin.

Since the resolution went into committee Congressmen Dallinger has been fighting to have it reported out. Succeeding in this, the Congressman laid his lines and forced the bill through the House.

Under the plan the new bridge will have no draw and will have an elevation of but twelve feet at the span peak to permit of the passage of vessels.

It is reported that sufficient pressure has been brought to bear to insure early passage of the measure through the Senate, and Congressman Dallinger is authority for the statement that he will use every effort to bring matters to so successful a conclusion that construction of the new bridge may begin early next summer.

## PRESIDENT NICHOLS' LETTER OF RESIGNATION

*To the Corporation of the Massachusetts Institute of Technology.*

*Gentlemen:* A sufficient time has now elapsed since the onset of a severe illness, which followed immediately upon my inauguration, to enable my physicians to estimate consequences. They assure me certain physical limitations, some of them probably permanent, have resulted. These, they agree, make it decidedly inadvisable for the Institute or for me that I should attempt to discharge the manifold duties of president. Indeed, they hold it would be especially unwise for me to assume the grave responsibilities, to attempt to withstand the inevitable stresses and strains of office, or to take on that share in the open discussion of matters of public interest and concern inseparable from the broader activities of educational leadership.

As my recuperation is still in progress I have contended earnestly with my doctors for a lighter judgment. I feel more than willing to take a personal risk, but they know better than I and they stand firm in their conclusions. The success of the Institute is of such profound importance to our national welfare, to the advancement of science and the useful arts, that no insufficient or inadequate leadership is sufferable. Personal hopes and wishes must stand aside. It is therefore with a deep personal regret but with the conviction that it is best for all concerned that I tender you my resignation of the presidency of the Institute and urge you to accept it without hesitation.

To you who have shown me such staunch and generous friendship it is pleasant to add that in the judgment of my physicians the physical disqualifications for the exigencies of educational administration are such as need not restrict my activities in the simpler, untroubled, methodical life of scientific investigation to which I was bred. It is to the research laboratory, therefore, that I ask your leave to return.

With cordial respect and grateful regard.

(Signed) ERNEST FOX NICHOLS.

November 3, 1921.

In reply to this, Frederick P. Fish, chairman of the executive committee of the Corporation, wrote setting forth the attitude of the Corporation as follows:

*My dear Dr. Nichols:* Your letter of November 3, 1921, to the Corporation of the Massachusetts Institute of Technology was submitted to the executive committee of the Institute at a meeting of the committee on November 10, 1921.

The situation set out in your letter is clearly controlling and the committee had no alternative except to accept your resignation, subject to confirmation by the Corporation. As appears by vote of the com-

mittee, copy of which I enclose, your resignation is to take effect January 4, 1922, with leave of absence until that date.

I cannot adequately express the deep regret of the committee that the Institute must lose your services as its president. We have all been looking forward with the utmost confidence to the sound development and continued prosperity of the Institution under your leadership. We have no doubts as to the future, but shall never cease to deplore that you were not permitted to make the great contribution to the work which your character, personality and training would have assured to it.

I need not add that the severance of the personal relations which have given us so much satisfaction is a source of keen regret to us all. We know, however, that you will always remain a friend of the Institute and of those responsible for the guidance of its affairs.

The members of the committee and the friends of the Institute generally will cordially unite in wishing you a long, happy and prosperous life and large success in the work to which you propose to devote your effort.

Very sincerely yours,

FREDERICK P. FISH,  
*Chairman of the Executive Committee.*

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## ARCHITECTURAL STUDENTS TO HAVE STUDENT COUNCIL

### Self-government in Rogers Building — will use honor system

STUDENT government has at last made its appearance at the Institute. The Department of Architecture has initiated this step through the formation of a student council which is to have jurisdiction over all matters of student government. All questions of discipline will be referred to this committee. It will also have charge of the conduct of all examinations in the Rogers Building. It has already been decided to use the honor system with the elimination of proctors. The council, of which Albert Kruse, a graduate student, is to be chairman, will consist of four other members. The others already selected are C. S. Holderness, '22, and W. T. Ferguson, '22, representing the two senior options, and G. V. C. Chamberlain, '23. The representative of the sophomore class is yet to be selected. Professor Emerson, the head of the department, and Prof. W. H. Lawrence are to act as faculty advisors to the council.

## CHARLES ROBERT CROSS

A memorial presented to the Faculty and spread upon its records,  
at the December meeting, 1921

ON November 16, Charles R. Cross, Professor Emeritus, a member of this Faculty for fifty years, died suddenly at his home in Brookline, in his seventy-fourth year. It is fitting that we inscribe upon our records an expression of the high esteem in which he was held among us, and of our recognition of the great debt which the Institute owes to him for such devoted service as only full appreciation can repay.

Charles Robert Cross was born in Troy, New York, May 29, 1848. He was the son of George and Lucy Ann (Brown) Cross, and great grandson of Ralph Cross of Newburyport, a Major in the Revolutionary Army. His father returned in 1862 to Newburyport where young Cross received his early education in the Putnam Free School. His love for the natural and physical sciences early determined him upon the career he desired to pursue. It was a lecture on the "Limits of Education," delivered by Dr. Jacob Bigelow before the Society of Arts, followed by a personal conference with President Rogers which decided young Cross that the newly opened Institute of Technology, rather than the Lawrence Scientific School, offered the best opportunities for obtaining an education such as he desired along scientific lines. After graduating from school at the age of seventeen, he taught one year in the New London, Conn., high school, during which time he prepared himself to enter the Sophomore Class at the Institute. He matriculated in the fall of 1867 in the Course in Science and Literature, the Course in Physics not being established at that time. Among his teachers were President Rogers and Professors Atkinson, Eliot, Pickering and Runkle.

During his senior year, Cross was appointed assistant in German under Professor Bocher. Upon receiving his degree in 1870, he was at once made instructor in Physics. The following year he was appointed to the Faculty as assistant professor, and five years later, in 1876, when only twenty-six years old, he was raised to the grade of full professor. When, in 1877, Professor Pickering resigned to assume the Directorship of the Harvard College Observatory, Professor Cross was appointed Thayer Professor of Physics and made Head of the Department of Physics. In 1885 the Corporation appointed him Director of the Rogers Laboratory of Physics.

As Head of the Department of Physics for a continuous period of forty years, 1877-1917, Professor Cross exerted a powerful influence in shaping the educational policy of the Institute and technical education in general. At the time he assumed charge of the department, he constituted the only Faculty member of its staff, and with two assistants



he gave all of the lecture, laboratory and classroom instruction offered in physics. When, in 1917, he retired from active teaching his staff numbered twenty-two members. During this period the Institute developed from a small struggling school — the exponent of a new type of higher education — into a school of national and international reputation. To Professor Cross, and to other members of the Faculty of the early seventies, belongs much of the credit of carrying on the work of the Institute through its years of stress and discouragements. A firm believer in its ideals and traditions, he became a recognized leader not only in the field of pure physical but also in that of its technical applications.

It was due to his clear foresight in anticipating the demands for technically trained men that the Institute has led in the inauguration of three new courses in applied science. Thus his early recognition of the coming industrial developments in electricity led the Corporation to establish, in 1882, the first course in Electrical Engineering offered in this country. For many years, Professor Cross gave much of the professional instruction in the course himself, and remained in charge of the Course until 1902, when at his request a separate department of Electrical Engineering was established. In 1900 the demand for men having a combined training in electrical engineering and in chemistry was foreseen and he gave his whole-hearted support to the establishment of the Course in Electrochemical Engineering in his department. Again in 1913 he recommended the establishment of a Course in Industrial Physics to meet the demand for men trained to go into the great Industrial Research Laboratories.

The Course leading to a degree in Physics was established in 1873, while Professor Pickering was still at the Institute. Intended primarily to train men as physicists it has never attracted large numbers of students. Under Professor Cross's leadership, however, the Course has graduated men who today are numbered among the most eminent scientists in this country.

It was to teaching rather than to research that Professor Cross devoted himself chiefly, although the number of his published papers on scientific subjects is by no means small. As a lecturer on experimental physics he had few equals. For wealth of illustration and for the perfection and skill with which the demonstrations were carried out, his lectures were justly famous, and will remain an Institute tradition.

Endowed with an exceptionally judicial mind and possessing in an unusual degree the ability to grasp the significance of a proposition in all its bearings,— Professor Cross's opinion on matters coming before the Faculty was always sought and given great weight. He rendered long and notable service on the Committee on Advanced Degree and Fellowships and on periodicals and libraries. He was punctilious in matters of form and procedure. Absolute honesty and fairness in his dealing with others were cardinal virtues with him. Although the demands made upon him as a Consulting Expert were often great, he rarely allowed a professional engagement to interfere with his Institute work.

Throughout his long period of activity on this Faculty, service to the Institute was ever his first consideration.

In the death of Professor Cross we mourn the loss of one of our most respected colleagues in whom were combined the qualities of an able executive, eminent scientist and educator, and cultured gentleman. The influence which he exerted during the past fifty years will continue to be felt by us for years to come. His splendid record of achievement ensures for his name an honored place among Technology's illustrious sons.

(Signed) H. M. GOODWIN,  
D. H. DEWEY,  
H. W. TYLER.

FUNERAL services for Professor Cross were held on the morning of November 18 at Trinity Church, and the attendance numbered many of the faculty of the Institute, students who had been under Professor Cross, members of the scientific societies, and family friends. Rev. John S. Moses, assistant minister of Trinity, conducted the services.

The honorary pallbearers were Dr. Elihu Thomson, representing the executive committee of the corporation; Dr. H. P. Talbot, chairman of the administrative committee; Dr. Francis H. Williams and Desmond FitzGerald of the corporation; Prof. Edward F. Miller, chairman of the faculty; Prof. H. M. Goodwin of the department of physics; Dr. Arthur D. Little, president of the Alumni Association; Dr. Harold Ernst of the American Academy of Arts and Sciences; Prof. Robert H. Richards, professor emeritus, and Prof. S. Homer Woodbridge, retired, both old and close friends of the deceased.

The active bearers, all close friends of Professor Cross's son, Charles R. Cross, Jr., who was killed in France in 1915 while on duty with the ambulance service, were Henry L. Shattuck, Dr. James B. Ayer, Francis H. Appleton, Jr., Dr. Charles Mixter, Dr. Edward P. Richardson, Roger Ernst, Edward C. Fitz and Mark T. Wendell. The ushers were faculty members of the department of physics at the Institute, and former students under Professor Cross. They were Prof. Louis Derr, Prof. Charles L. Norton, Prof. William J. Drisko, Prof. Maurice de Kay Thompson, Prof. G. B. Wilkes and Prof. F. A. Laws. The body was taken to Newburyport.

Throughout the day the flags on the Technology buildings were at half staff, and for a part of the day the Department of Physics suspended classes.



## PROFESSOR CROSS AS TEACHER AND MAN

### A supplement to the Faculty Memorial

By H. M. GOODWIN, '90,

*Professor of Electrochemistry and Physics*

*Editor's note: In addition to the formal memorial prepared for the Faculty and adopted as part of its record, printed on the preceding pages, one of the members of the Committee, Professor Goodwin, one of Professor Cross's students and colleagues, prepared for the January issue of the "Tech Engineering News" an article containing more information on the human side of the scientist and teacher than would obviously be appropriate in the official record. These paragraphs following, together with the preceding, give an unusually complete picture of one who was so well known to all the alumni except the most recent classes. To exclude duplication we reprint only portions of the "Engineering News" article.*

PROBABLY no member of the staff is remembered today by so many past Technology students as Professor Cross, whose Physics lectures were taken by every member of the Sophomore Class from 1877 to 1903, and by at least half the class from that time until 1917, when he retired from active teaching.

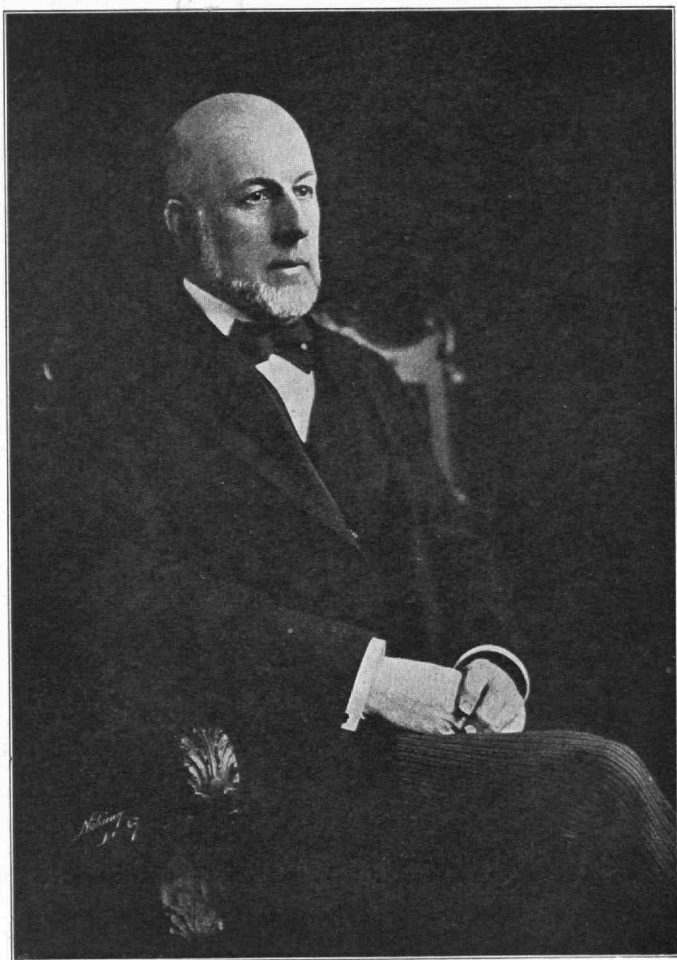
Graduating with the third Institute class in 1870, he was at once made instructor in Physics. He was promoted rapidly — being raised to the rank of an assistant professor the following year, and to a full professorship in 1875 — five years after graduation. Upon Professor Pickering's resignation in 1877 to assume the Directorship of the Harvard Observatory, Professor Cross was appointed to the Thayer Professorship of Physics and made head of the Department. In 1885 he was appointed Director of the Rogers Laboratory of Physics. In 1873 Professor Cross married Marianna Pike of Salisbury, Mass., who died in 1900. Their son, Charles Robert Cross, Jr., was killed in 1915 while serving with the American Ambulance Corps in France.

Professor Cross exerted a powerful influence in shaping the educational policy of the Institute. His fair-mindedness and sound judgment gave great weight to his opinions not only among his colleagues on the Faculty but also with members of the Corporation. He never advocated a proposition without having considered it in all its bearings and consequences. In debate his analysis of a question was exhaustive, and his arguments logical and convincing. In matters of form and procedure he was punctilious. He possessed a remarkable memory. These qualities rendered his appointment on important committees inevitable, and to such committee work he gave unstintingly of his time and thought. Ever just in his dealings with his students, he always gave them the benefit of any possible doubt in questions concerning their standard of

conduct. He possessed a keen sense of humor, which at times — all too rare — flashed forth as brilliant repartee.

As head of a large department, the keynote of Professor Cross's policy was so to administer the means placed at his disposal by the Corporation as to render the maximum possible return to the Institute. No trustee could have been more conscientious in the discharge of his trust. To those in whom he had confidence, he delegated large authority and coöperated in every possible way with the development of such work as they inaugurated. In this respect he was an ideal man to work under. He was ever open to suggestions from members of his Department respecting the introduction of new courses or modification of old ones.

There is no doubt that the work in which Professor Cross took the greatest satisfaction and pleasure was his lecture course in second-year Physics. In his hands these experimental lectures were developed to a degree of perfection rarely attained. The equipment which he gradually collected for the purpose was very extensive; much of it was developed and constructed under his direction in the Department Instrument Shop. The care with which every lecture was prepared, the skill with which the experiments — often delicate and elaborate — were performed, and above all the infinite pains taken to have every fact which was presented reflect the last word in the development of the science or its applications, gave to these lectures a character which was unique. No one who ever saw Professor Cross in his lecture room "working up" a new experiment, often spending days over an apparently simple demonstration in order that it might "go" with that certainty and perfection which characterized everything which he showed to his class, can realize the amount of time and labor he devoted every year to this course. The delight and pride he felt in the work was his reward. Certainly the majority of the students never half appreciated the exceptional character of the experiments they were privileged to see. Graduate students from other colleges, however, often spoke of them with wonder and enthusiasm. The writer has never seen them surpassed in any of the foreign universities where the lecture system is supposed to reach its highest perfection. As Professor Cross saw it, the purpose of the Sophomore Physics Course was to give not only a sound training in the fundamentals of the science on which engineering is based, but also to present its broad cultural aspects as well, and to this conviction he remained true to the end. Thus, in order that his students might all have the opportunity of becoming acquainted with those special phases of physics which, for lack of time, it was impossible to include in the regular course, he gave gratuitously up to the time the Institute moved to its present site — and with no small effort to himself — a series of beautifully illustrated afternoon lectures on such subjects as Electric Waves and Wireless Telegraphy, The Discharge of Electricity Through Gases, Radioactivity and Polarized Light. Those who attended these lectures are not likely soon to forget them. Professor Cross's ability as lecturer on Experimental Physics was early recognized by the trustees of the Lowell Institute, and



CHARLES ROBERT CROSS, '70  
1848-1921

he was invited to give numerous courses of lectures on light, sound and electricity, in Huntington Hall.

Professor Cross was a member of the following societies: Fellow of the American Academy of Arts and Sciences, and from 1898 to the time of his death chairman of the Rumford Committee; Fellow of the American Association for the Advancement of Science, the British Association for the Advancement of Science, the American Physical Society, the Physical Society of France, the American Astronomical Society and the American Institute of Electrical Engineers, of which he was one of the first vice-presidents. He was chairman of one of the three sections of the International Electrical Congress held at Chicago in 1893. In 1880 he was President of the Appalachian Mountain Club.

Outside of the Institute, Professor Cross was widely known as a consulting expert on matters pertaining to physics and its applications. Intimately acquainted with the early experiments of Alexander Graham Bell carried out in the old Institute buildings and later with those of Francis Blake, Professor Cross was for many years the chief scientific expert of the Bell Telephone Company. Under his direction a number of important researches on telephony and allied subjects were carried out by his students and published in the *Proceedings of the American Academy and Technology Quarterly*. He was also a recognized authority on acoustics, particularly on the standards of musical pitch, and published several important papers on this subject. With the development of Electrical Engineering he served as expert in many legal cases, as he possessed not only the necessary scientific and technical knowledge but also an extensive acquaintance with patent law. He wrote fluently and with a fine command of English. Since relieved from his teaching duties he has been busily engaged in writing, among other things, an admirable history of the Alumni Association — of which he was Secretary from 1876 to 1884. At the time of his death he was engaged in preparing a number of biographical sketches for the American Academy of Arts and Sciences.

It was the writer's privilege to be intimately associated with Professor Cross as student, assistant and colleague on the Faculty, for over thirty years. In the old department study, where he and some four or five of the older members of the staff had our desks together, we had an exceptional opportunity of seeing his human side and of knowing him as a man. It was there in our daily intercourse with one another, in which the widest possible range of subjects was often discussed, that the unusual breadth of his interests and fund of information became fully appreciated. He could talk delightfully and with intimate knowledge on music, of which he was exceedingly fond (he rarely missed a performance of the Symphony Orchestra), on art, from a personal acquaintance with most of the great galleries of Europe, and on architecture. He had an extensive knowledge of the gothic, having made a special study of the cathedrals of England and France and of their stained glass. In literature he was especially interested in history and the biography of eminent men, from whose sayings he could quote extensively. He was

also a great lover of natural scenery, and with his son — who was an intrepid mountaineer — he made numerous trips to Switzerland, Tyrol and the Canadian Rockies. Indeed, a better informed or more cultured gentleman it is seldom one's privilege to meet.

The familiar presence of Professor Cross at his desk and his ever kindly greeting will be sadly missed by his colleagues. His devoted service to his Alma Mater for a period of over half a century and his splendid record of accomplishment have won for him the gratitude and admiration of all Institute men; his name will have an enduring place on that roll of honored pioneers who led in the upbuilding of our modern system of technical education. — *The Tech Engineering News*.

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### PROFESSOR CROSS'S BEQUEST

APPROXIMATELY \$100,000 is left to Harvard College and to the Harvard Observatory by the terms of the will of Prof. Charles R. Cross of Brookline, Mass., which was filed for probate recently. Small bequests are made to the Appalachian Mountain Club, the Alpine Club of Canada and the Harvard Travellers' Club. Two trust funds, in memory of two sons, are also formed, the proceeds of which are to be paid to Harvard University. The value of the estate is estimated at \$130,000.

## REMINISCENCES OF PROFESSOR CROSS

*The following notes have been sent in to the editor in response to his request for reminiscences of Professor Cross:*

"Professor Cross was an honored member of scientific societies and had many friends in them. He was a constant attendant at the meetings of the Thursday Evening Club, where he had many warm friends, and he contributed talks to the club from time to time. His son's death in war work in France was a great blow to him; the father and son had always been very close to each other in their interests. Certain of his ways with the students had a mixture of comedy and tragedy in them. He would ask the students, 'Have you any questions?' this after he had finished a description of something. No student ever dared to ask the question. On one occasion a student who perfectly well knew what the answer was asked a question for the benefit of neighbors around him who were remarking in whispers, 'I don't see that, what does he mean?' This student asked the question in the fewest words and simplest language. Professor Cross replied, 'Why Mr. —, not to know that shows you don't know anything about the subject; a high-school graduate ought to know more than that.' Another of his ways can be classed here: of late years he had got into the habit of talking very low, so the class could not hear him. His younger associates in the teaching force tried in every way to bring the matter to his notice without directly accusing him of failure in this line; they said how hard it was to be heard in the lecture room and how it was wise to try to overcome it in this way and that. This brought the answer from Professor Cross, 'Why, I never have the least trouble in being heard.' Even Dr. Maclaurin tried to help in this matter without success. On class day he was taken off by the orator of the day making a short speech about him in which the lips moved but the voice uttered no sound, much to the delight of the boys."

"I was one of his students, but I always felt that he soared in realms away above me, and it never occurred to me that he had another side, which in after life I discovered he had, that is, a very humane side, and a fondness for the ridiculous. I hope you can have this brought out in whatever you write about him by some one who knew him better than I did. My recollections of Mr. Cross were always very pleasant, and I had great respect for his ability."

"Regarding Professor Cross's connection at the Institute, I would state that he was getting towards his prime when my class was there. He could talk faster in lectures than any other professor, and had rather the reputation of being pretty hard at examination times and almost finical. My personal experience, however, was quite different. During my first two years at M. I. T., I was a 'special' student. In the third



year I became a 'regular' student, and was obliged to make up what I had not taken according to the curriculum of the first two years. One of these was astronomy. I went only to the first lecture. One Monday morning, I saw posted on the Bulletin Board that the final examination would be held the following Wednesday. I went home and studied astronomy for two days and two nights, and on Wednesday wrote answers more or less correct from 9 o'clock to 1.30, when the instructor in charge shut me off. I was very anxious to know whether I had passed and saw 'Charlie.' He said: 'Mr. Briggs, according to strict ruling, you failed to pass that examination, but you showed such good general knowledge of the subject that I have decided to approve your paper.' When the question came up before the Faculty of allowing a half holiday on Friday for Technology Field Day (instead of having the events on Saturday), Professor Cross was one of the most strenuous advocates in its favor, and in all questions before the Faculty on athletics he was a very strong supporter."

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## FRANCE HONORS WELLS BOSWORTH

Confers Cross of Legion of Honor for his architectural work

MR. WELLS BOSWORTH, '89, IV, architect of the new Technology buildings, has recently received the decoration from the French Government of "Chevalier of the Legion of Honor." Since his return from the *Ecole des Beaux-Arts* in 1900, Mr. Bosworth has been active in many channels in furthering the interests of the French in this country, particularly during and since the War.

He won the competition amongst the members of the Society of Beaux-Arts Architects for a monument to Major L'Enfant in the Arlington Cemetery at Washington, and executed the monument. It presents the plan of Washington as L'Enfant conceived it, and one may look out across the Potomac and behold in its beauty the realization of his dreams. Ambassador Jusserand was particularly pleased with this monument and noted it in his book on his experiences as Ambassador to the United States.

This last summer one whole wing of the Salon was given to an exhibition of American architecture. Mr. Bosworth sent drawings and photographs, chiefly of the Technology buildings, which made such a favorable impression that his name, already on the lists, was immediately put forward for the decoration, which quickly followed. Frenchmen are accustomed to seeing great schemes for groups of buildings presented in the form of *projets*, but seldom, if ever, do they see them realized as in this case in living stone. Let us hope that means may soon be forthcoming to complete the effect, with the definite treatment in the courts. Felicitations to Mr. Bosworth.

## ONE YEAR AGO

### A reminiscence of Professor Sedgwick's last Christmas

HE stood in the center of the trays and packages which filled the room. There was high joy in his eyes, as if happy feelings were making carnival time of every moment of the day. He came smiling to me, expressing that fine spirit which graced the day. I knew he was a genius in creating an area of friendliness about him.—The adventure of the day was on. I had never talked with Professor Sedgwick, nor had met him, yet in a few minutes he had his easy chair by mine, and we were talking of Arkansas. He knew and liked that State. One of his old boys was down there helping to put over a great sanitary engineering project. He himself had worked with the Rockefeller Commission on the problem of malaria, and had suggested efforts toward control in that district. He knew well the inner ways to confidence, and how finely he won the heart to understanding. Listening as graciously as he talked, he subtly made me feel I was really proving good company for him. That was a real mark of his sympathy and his goodness. Others have told me that this was always their feeling when he passed their way.

In every happy detail of that Christmas day Professor Sedgwick had his part. He lived gladly in each one's thought and feeling, giving constantly of himself. His hosts found him as delightfully fresh as I, though many years had deepened their love and understanding of him. He beautifully anticipated the thought of the inner circle, whether it were in expressing the Christmas message of one absent or in watching the gay performance of a marionette entertainment by the younger members of the Christmas party. How well he talked, that dinner hour, seeming to remember so many glad things out of his travels and friendships! And he would tell of days in England that he loved, finding real joy in their remembrance. There were quaint and happy remarks about Mrs. Sedgwick's experiences, which gave him keen amusement to recall. He delightfully told of Mrs. Sedgwick's interest in the French women and children, always giving a humorous interpretation to his stories.

Professor Sedgwick imparted an interest and grace of personality to all the talk of the day. The life of Technology was always near him, and he was particularly concerned in the teaching and the students there. "Do you intend to teach?" was the question which opened the way for him to say the things that will be always remembered as expressing his belief in his life's work and the privilege of his service. He told of his Yale days, the earlier indecisions of post-graduate work and teaching experiences. His thoughts went back to his years of teaching, when he said, "They have been mighty happy ones. I don't believe they could have been happier in work and in friends." An article in *Harper's* was mentioned, "The Luxury of Being a Professor." The phrase pleased him, for he felt no other phrase could fit so fully his own

experience. It was to him a luxury of rich and happy living. "Above all," he said, "it has given me the luxury of knowing people. Of being with the folks I like — of being here today — and growing to like better those I work with. I have known so many people that I would have had to miss if I had not been a college professor. And it means the luxury of keeping young! Why, my students keep me young. I work with them. I plan with them. Each year there is a new enthusiasm, fresh experience and new opportunities. It is a great adventure. Even now, as old as I am, I go out every night. Would you believe it? Here is my engagement book, every night for the week past and the week to come filled. I have to keep young, these days." He told me of the pleasure of working on projects with his old students, how this made his interests a world-wide thing. "One of the old boys is directing work in a French village; one will soon leave for important things in Europe; one is down in Little Rock; and another is out in Salt Lake. Isn't that a fine thing? I love to teach and I love to know people. I wouldn't have done anything else, for it has given me the happiest things in life. Think a long time before you change."

The outside world of Christmas day lured us late in the afternoon down through beaten wood paths. That was an hour of glad rambling and good cheer. Our host knew the inside track of his friend's fancy, for soon Professor Sedgwick was happily explaining the peculiar formation of some rock in that neighborhood, which carried him further into travels of his. "This is a rare rock, but there is some in your state," he laughingly remarked. In a few minutes we had reached the skating pond. Our host led the way across the pond to where the shallowness of the water had allowed some very beautiful ice formations under the surface. This was a find for Professor Sedgwick, and he had us down on all fours while he explained the structure of the magic web of ice. The spirit of the out of doors caused him to think of some amusing Technology picnic experiences, human sides of a world of people and events that his big heart loved devotedly.

The Christmas log was the cheeriest and heartiest welcome back to the circle around the hearth. The first stars had shone, the world had been shut out by the flame-shadows of the log. The Christmas story hour was perfect. Professor Sedgwick, near his wife, listened eagerly to Mrs. Sedgwick, who brought back the charm of the old Christmas and the world of Dickens. I know his heart was happy, for his face was transfigured with the glow of happy and genial thoughts.

Professor Sedgwick, as I saw him, was one of those whose lives reveal the mystic sense of fullness which goes out of their soul. They feel so much of the comradeship of life that those they meet are not strangers, but are congenial companions along the open road. And those they met have an exhilarating impulse toward more wholesome living. These comrades of life, for in the robust fellowship of their association we know them as comrades, make the personal contribution the supreme thing. The genius of good will and hearty faith makes them artists in living.

CHARLES WOOTEN PIPKIN.

## CORPORATION AWARDS SUMMER DEGREES

### New committee appointed to choose president—Faculty changes

At the January quarterly meeting of the Corporation the resignation of Dr. Nichols, as president, was accepted, with expressions of regret, and a committee was appointed to scan the educational field for Dr. Nichols' successor. As yet no one has been decided upon to fill this position. Aside from the regular routine order of the meeting the Corporation awarded the following degrees:

#### MASTER OF ARCHITECTURE

*Department of Architecture:* Harold Thomas Dennison.

#### MASTER OF SCIENCE

*Department of Chemistry:* Conrad Erwin Ronneberg.

*Department of Electrical Engineering:* Edward Lindley Bowles.

*Department of Chemical Engineering:* Thomas Harry Frost, Chester Cameron Stewart.

*Department of Chemical Engineering Practice:* Geoffrey James Greenfield, Paul Carver Merrill.

*Department of Aeronautical Engineering:* Koichiro Takeuchi.

*Without Department Designation:* Minocher Jahangir Kavasji.

#### BACHELOR OF SCIENCE

*Department of Civil Engineering:* John Joseph Collins, Willard Ames Fleming, William Morton Breakey Freeman, LeRoy Maxwell Hersum, Karl Jetter, Andrew Ture Johnson (1920), Francis Bowen Kittredge, Frank Leon Lazo, David Albert Newcomer, Emmett Jay Scott, Jr., Oscar Buzzell Sias, William Wald, Arthur Winebaum (1920).

*Department of Mechanical Engineering:* Henry duPont Baldwin, James Howard Becker (1919), Arthur Henry Blake, Clinton Lucius Bond (1920), Wolfe William Brown, Edward Parkinson Clark, William Patrick Corbett, Edward Stanford Dennison, Vladimir Dixon, Arthur Esner, John Abbott Facey, Herman Francis Finch, Walter Julian Hamburger, Paul Landers Hanson, Harold Frierson Hunter, Donald Franklin Lyman, Lawrence Charles McCloskey, James Wilbur McNaul, Joseph Charles Moosbrugger, Philip Augustus Melles, Jr., Chester Raymond Painter, Richard Clement Poore, Harvey Fletcher Rettew, Fred Myron Rowell.

*Department of Mining Engineering and Metallurgy, Option 1:* Alexander Duer Harvey; *Option 2:* Axel Cunnerius Hoijord Andersen, George Howard LeFevre, William Henry Leonori, Jr.; *Option 3:* George Augustus Leeche, Oliver Adams Mills.

*Department of Architecture:* Esther Marie Cornelia Nelson.

*Department of Chemistry:* Leo Mann.

*Department of Electrical Engineering:* Douglass Mellen Burckett, Thomas Buell Card, James Rose Carter, Otto Gustav Colbiorusen Dahl, Perley Bartlett Kimball.

*Department of General Science:* Samuel Rubin (1920).

*Department of General Engineering:* James Francis Downey, Jr., Darnig Levon Eksergian, Edward Wood Jackson, Augustus Braun Kinzel, William Riley McKeen, Jr., Harry Victor.

*Department of Chemical Engineering:* Allen Drew Addicks, Bradford Barton, Jr., William Antony Clark, Jr., Arnold Rogers Davis, Franklin Trimby Flaherty, Robert Burnap Frost, Chung Li, August Peter Munning, George Sisson Safford, Pang-Nin So, Owen Gregg Wilson, Jr., Alexander Wishnew, Harold Arnold Zager.

*Department of Sanitary Engineering:* Alfred Hocking Fletcher.

*Department of Naval Architecture and Marine Engineering:* Palmer Scott.

*Department of Engineering Administration, Option 1:* Clayton Carpenter Westland; *Option 2:* Charles Antony Morss, Jr., Arthur Warren Norton, Foster M. Post, Herbert William Reinhard.

The Corporation also confirmed the action of the executive committee in making the following appointments and in accepting the following resignations in the instructing and administrating staff of the Institute:

Dr. James L. Tryon, now assistant registrar, to be added to the faculty with the title of assistant professor.

Dr. Louis Ward Croke, assistant to the medical director.

Prof. R. H. George of Yale, lecturer in the department of English and history during the second term.

Dean A. Fales, assistant professor of automotive engineering.

Carl Edward Carlson, assistant in chemistry.

R. H. Price, assistant director of the Boston station of the School of Chemical Engineering Practice.

Edwin S. Burdell, instructor in English and history.

George M. Denking, instructor in aeronautics.

A. L. Pitman, instructor and assistant director of the Bangor station of the School of Chemical Engineering Practice.

Conrad E. Ronneberg, instructor in chemistry.

F. W. Sears, instructor in physics.

Ralph C. Young, instructor in chemistry.

Ernest C. Crocker, research associate in applied chemistry.

Paul Heymans, research associate in physics.

John Keats, research associate in the School of Chemical Engineering Practice.

Miss Helen E. Vassar, research associate in geology.

The resignation of Fred P. Baker as assistant director of the Boston station of the School of Chemical Engineering Practice was accepted, as were those of Karl L. Ford, assistant in chemistry, and W. R. Vitalini, assistant in mechanical engineering.



## THE DECEMBER COUNCIL MEETING

THE eighty-seventh meeting of the Alumni Council was held on December 19, 1921. It was called to order by the President, who asked the members of the Council to rise in silent respect to the memory of Prof. Charles R. Cross a former Secretary of the Association, whose death has occurred since the last meeting of the Council.

A recommendation of the report presented at the last meeting concerning increase in subscriptions to the TECHNOLOGY REVIEW was adopted requesting the Senior Class to include in their Class Day dues three dollars for the first year's subscription to the TECHNOLOGY REVIEW and dues in the Alumni Association.

President Little announced how members of the Faculty had responded to his invitation to let him know when they would be in different parts of the country. Since then Professor Wilson spoke at Chicago, Professor Talbot at New Haven, Professor Lewis at New Orleans, as well as Doctor Little, who was in New Orleans a week later. Professor Norton is planning to go to the Cleveland Association in the near future.

Mr. Hopkins, chairman of the Committee on the Publication of the TECHNOLOGY REVIEW, announced that the publication of the REVIEW in monthly numbers was being considered and it was planned to continue the quarterly numbers with the class numbers and to have smaller numbers in the intermediate periods. To carry this out the editorial staff of the REVIEW will probably have to be increased.

Mr. Robert J. Andrews of the Class of '77 presented drawings of the proposed bridge to replace the present Harvard Bridge. President Little suggested that the new bridge be called the Technology Bridge. This bridge includes in its design a large memorial tower in place of the present drawbridge. Mr. Andrews told the Council how the Commonwealth of Massachusetts, in planning a memorial for its soldiers who died in service, had considered putting into the Charles River Basin an island upon which a memorial hall might be placed. Mr. Andrews interested the Council in his proposal for this bridge with the memorial arch in the middle.

Mr. Metcalf, ex-president of the Association, reported to the Council the progress made upon a plan to develop a comprehensive University Club in Boston in quarters which would probably be on Beacon Hill, or not farther uptown than Arlington Street. After a discussion the Council voted that it was the sense of the meeting that the Alumni of Technology should coöperate with the comprehensive plan rather than to establish a separate Technology Club in Boston.

Mr. Munroe, '82, presented a report upon the question of portraits of past presidents. His committee made recommendation that a Permanent Art Commission be appointed for the Institute, with a



representation from the Corporation, Faculty and Alumni. This matter by vote was referred to the next meeting of the Council which will be held on the last Monday in February, February 27, 1922.

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## LESS THAN ONE IN TWENTY WIN H

THE registrar's office is now busy counting up the marks given last term and determining how many men managed to win the elusive C's and H's as well as the number of unfortunates who could not escape having red ink adornments on their reports. The count will be completed some time next week, but a fair idea of the marks given out is already to be had.

Assistant Registrar F. L. Clapp says it is estimated that about five H's were given out for each hundred students, but that, since most men who were able to rate one of the honor marks received others as well, less than one man in twenty among the undergraduates found an H on his report. The C's ran about as usual, averaging around twenty-five per cent of the total marks given out, with the P's forming the majority in spite of the apparently great numerical strength of the fateful F.

The red marks ran about as usual, but the new formation of a junior freshman class saved a number of men who would otherwise have been forced to leave the Institute, and as a result the number of votes given out was much less this year than in former times. Most of the men who have to leave at the end of the first term are freshmen and it is those that the just formed class saves and gives another chance. The "mortality" among the upper classmen was about as great as usual but showed no increase over former years.

## NEW MEMBERS OF THE ALUMNI ASSOCIATION

THE following have been elected members of the Association by ballot:

Charles E. Miller, '84	Clarence Sage Roe, '13
Frank Foster Tripp, '87	Howard Frazier Sutter, '13
Dwight Clark, '97	Emery Joseph Theriault, '13
Farley Osgood, '97	Lee David Walters, '13
David Low, '01	George Parker Allen, '16
William Charles Twieg, '03	William Sumner Chandler, '16
Albert Cornell Dickerman, '05	Tharratt Gilbert Best, '17
Arthur Tillson Hooven, '05	David Mungall Brown, '17
William Hugh Lalley, '05	Stanley Know Cooper, '17
Francis Fielding Longley, '05	Clark Matthews Elmer, '17
William Anderson Caldwell, '06	Paul Fenno Gegenberger, '17
Frederick Worthington Chandler, '06	Francis Haynes Rockett, '17
Sidney Howard George, '06	Wallis E. Stuart, Jr., '17
Park Valentine Perkins, '06	Joseph Benton Wirt, '17
Bivendra Chandra Gupta, '07	James Laws Ricketts, '18
Frederic Bassett Menner, '07	George Andrew Elmer, '19
Gardner Edward Prouty, '07	Charles Winthrop Hyde, '19
John Leggett Pultz, '07	Raphael Van Neste, '19
Arthur Taylor Remick, '07	Robert Kirk Wells, '19
Harold Warner Streeter, '07	Norris Greenleaf Abbott, Jr., '20
Maynard Bramhall, '10	Ralph Pidgin Abercrombie, '20
George Mackay Roads, '10	James Herbert Blodgett, '20
Martin Stamburgh Tod, '10	Waldo H. Brown, '20
Clarence Willard Dow, '11	Robert Douglas Flood, Jr., '20
William Winfred Goodhue, '11	George Frank Gokey, Jr., '20
Roland Bailey Wells, '11	Donald Stone Graves, '20
Samuel Borovoy, '12	Austin D. Higgins, '20
Henry Cape Dunbar, '12	Myron Harry Lee, '20
Marcellus Fernando Graupner, '12	Joseph Isador Margolis, '20
Joseph Ignatius Murray, '12	Weir Orford Merryweather, '20
Harold Kenneth Smoot, '12	Joseph Charles Moosbrugger, '20
Elliot Whitney Tarr, '12	Henry Russell Murphy, '20
Harold George Watkins, '12	Miss Constance Emma Peters, '20
John Holbrook White, '12	Walter Carlyle Roberts, '20
Julian Emanuel Adler, '13	Frank Robert Robinson, '20
William Everhard Herron, '13	Simeon E. Travis, Jr., '20
David Harry Hilliard, '13	John Sherman Visscher, '20
Robert Aldridge Nowlin, '13	Vladimir Dixon, '21

## EDITORIALS

### PROFESSOR CROSS

It would be supererogation, in view of Professor Goodwin's complete and illuminating articles in this issue, for the editor to attempt to add anything in the way of comment or tribute to that completeness. He had hoped to collect from many sources, as he suggested in the last issue, material evoked spontaneously from the memories of many men of Technology at news of Professor Cross's death. What little came is presented in this issue. Students, apparently, have no longer memories than republics. At any rate it is not for the editor to offer remarks when students through generations covering nearly fifty years are silent.

Even one who was nearly a total stranger to him, as the editor was, could not but feel the qualities which set him off, apart, from the later generations — qualities represented pictorially very well in his small, slender, black-clad figure, old-fashioned, if one must use the word, in its total effect if not in its detail; precise in manner, exact in speech, urbane and mildly smiling but with a hint of sharpness that the smile revealed rather than hid; a face so strangely unmarked by time, so placid and free from the stigmata of anxiety and effort as to be in strong contrast with those one sees today where, nearly always, the pace tells — the entire impression of the man as suggestive of a past generation as was the old furniture of his office, the black walnut and haircloth, when one glimpsed it, back in 1917, amid the cold, fresh concrete and plaster glories of the new Institute.

His work, we assume, was of the kind surpassed in reputation if not in brilliancy by many of his contemporaries, but not surpassed in the amazing sum total of usefulness and influence on his era which comes only from a long, unbroken succession of years devoted to one thing, the upbuilding of the study of physics, of the department of physics, and, larger than these, of the Institute. Few men, certainly, in our modern education have influenced so many men for so many years. Had he done nothing else but that teaching it would have been a lifework not often matched for usefulness. But he did many things besides, and American applied science and American business — the business of the world! — is the richer because of the serene, unostentatious, never-ending, patient work of that little figure, whom most of us remember best by the shining forehead, the fringe of snowy whisker, the half-heard voice — the personality we called "Charley Cross."

### A NEW SONG FOR TECH

SOMEWHERE else in this issue is an account of the prizes to be offered over a period of four years by three of the chief activities at the Institute, for a new song, — two hundred dollars each year for the best song, a

silver cup for the best song for the four years; songs to be handed in in time for Junior Week.

The undergraduates want the alumni to get in on this song. They expect that it will be an alumnus who will win the prize. The alumni know what Tech means; they know the world as well. They have background. They ought to be able to write a song that will mean Tech to all Tech men. Ike Litchfield's "Take Me Back to Tech" is a classic, one of the great humorous college songs. Now we want a serious song, an Alma Mater, to go with it. The "Stein Song" won't do any longer — the words at least. The words breathe no spirit of Tech, breathe no spirit of anything latterly, and they were written by a Dartmouth man.

But everybody knows and loves the music — and that is Technology's. It would be a pity to lose Fred Bullard's music. It is doubtful whether anything written in the musical spirit of today would be half as effective. To find a new song — words and music — would be a miracle. To find new words for the old music is entirely within the bounds of possibility.

Let the alumni go to it then. Write new words for the "Stein Song" music words that are full of the spirit of Technology — Alma Mater, kindly mother or stern nurse of heroes, bidding them return with their shields or upon them!

(Exact information about the contest may be had from the General Manager of *The Tech*. See page 62 of this issue.)

### DIAZ — AND A DIFFERENT MORAL

I never trained a young gazelle  
To wander fondly by my side  
But when I learned to love it well —  
It fell upon the buttered side!

— Wordsworth.

When those burning and ill-mannered words about General Foch, about which opinions differ, were still in the womb of time, *i.e.*, in Mr. Murray's printing house in Kendall Square, before ever they had struck scandalously upon the ears of our little world, they were put to the test. They were weighed in the balances — and, apparently, found wanting.

Hard on the heels of Foch followed Diaz, a Roland for our Oliver. He was to be received at all the usual places, including Harvard, and it was decided, in order, we trust, to rebut an argument not yet delivered, that he should visit us; he should look upon us and see that, lo! we were good. Preparations were made; the faculty were warned; the Reserve Officers' Training Corps was groomed; the Military Science Department was consulted on points of etiquette; *The Tech* spread a speaking likeness of the great Italian over all the space not taken up by cigarette advertisements; the Veterans of the World War got out their uniforms,

monthly growing tighter; the stenographers were dismissed early at 5.00 that they might be in good season to see the General at 5.45 on his way back to the city after inspecting Harvard and the Brighton Abattoir. Everybody was looking forward to the occasion, except — apparently — the General.

The twilight of the great day drew on. Over four hundred were gathered in Smith Hall to greet him, prepared to burst into *O Sole Mio* at a moment's notice — undergraduates, graduates, Reserve Officers' Training Corps, Corporation, Officers of Administration, Faculty, stenographic force and janitors. The cortège approached, to the slow booming of minute guns by the officers in the Ordnance School. Let us quote (as we occasionally do) from *The Tech*:

"On schedule the party of which the General was the major member (there seems to be a subtle pun here) drew up at the entrance to Building 5 at 5.45. The General remained in his car while the rest of the party, including General Edwards, was conducted on a short tour of the buildings (according to the good, old custom) by Assistant Dean Lobdell, '17." There's tragedy for you and, perhaps, for General Edwards!

"The assembled party in 10-250 were disappointed at the inability of the General to address them." What the General felt is not recorded.

We (editorially speaking) hope that even now his conscience gnaws him when he thinks of it. It was a dirty trick! It spoiled, completely spoiled, the point of our editorial on Foch! We asked for it — and we got it! Technology did what she could. The authorities did precisely what we should have liked — "angels could do no more"; the Institute rallied round, and the guest of honor, who had never, apparently, heard of Technology before, didn't see any use in putting himself out for it. What's the answer? The answer is, of course, to make Technology so well-known that visitors to Boston will beg to be allowed to exhibit themselves there and will weep when told that the Institute stops work for nobody — not even generals. But all the same we (speaking editorially) were vexed when we heard about it. We couldn't withdraw the Foch editorial; it was already in press. But the logic of events had already drawn its sting. We know when we're licked!

### ECHOES OF THE DEPTH BOMB

The following, written apparently by some one who knows Technology well, was printed (anonymously) in *The Boston Globe*:

"Nothing in years has created so much heated discussion in Technology's laboratories and shops as an article by Prof. Robert E. Rogers of the English Department in the current issue of the TECHNOLOGY REVIEW. Hitting straight from the shoulder, he attacks Tech's traditional attitude of isolation, particularly with respect to ignoring distinguished visitors to Boston.

In the line of recognizing public functions and ceremonies, Technology has long occupied the position more of a business concern than an institution. On a universally accepted holiday, or on a special occa-

sion, such as Armistice Day, the Institute suspends classes, perhaps even holds exercises, but the ordinary run of affairs which attract attention from the public, such as the visit of famous men to Boston, are ignored. Even on the occasion of funerals of Faculty members, classes are usually held continuously, in carrying out the assignment of giving an engineering education in four years.

It is this attitude of lack of interest in any but matters scientific that Professor Rogers decries. He says that the students are entitled to take part in and hear of 'the great uncertainties, the things that cannot be solved with slide-rules and test tubes.' Instead, he says, Technology 'sits tight in the laboratory, invincibly indifferent to what is going on outside, invincibly ignorant of the importance of the things that every one else is interested in, colossally pleased with itself, in a dull kind of way, that it is sticking to the job.'

Professor Rogers lays the *onus* for such a condition at the door of the Faculty, administrative authorities and the Corporation, 'chiefly the Faculty.'

There are a great many who see the situation as Professor Rogers sees it, largely those who have got out of Technology, by one avenue or another. Among the undergraduates the plan is not so popular. Technology is probably unique among the colleges of the country in the proportion of students who do not look upon a holiday as something desirable.

There is a certain amount of work mapped out in the courses, and the time has been figured so closely that when there is a day off it merely means more work later, as the studies are not of the type which can be abridged. This is particularly true in the laboratories and drafting rooms.

In the term which has just closed there were at least three Friday afternoons off. Friday afternoon is a favorite one for drafting or laboratory exercises, running for three hours at a stretch. Thus, because of the large number of Friday holidays, students who had drafting or laboratory on Friday afternoon had nine hours less than those who had the same work on another afternoon; but in most cases they were expected to cover and hand in the same amount of work. As a result, on these Friday afternoons many students did their regular Friday afternoon work instead of taking a holiday.

Even on field day, when just outside on Technology Field the freshmen and sophomores were staging their annual picturesque battle for supremacy, a large number of students ignored the holiday which had been voted for them by the Faculty so that they might view the colorful spectacle. On field day afternoon many of the laboratories and drafting rooms were crowded.

Technology students hear a lot about 'the larger life.' It is drummed into them by every callow A.B. of their acquaintance, and by every one else who thinks that perhaps they haven't heard about it. They are often made to feel as though they were slightly unclean — just a bit



tainted socially — because they either don't care or don't know enough to exclaim over the right things.

The Faculty tries to cram the larger life more or less down their throats, by means of 'general studies' and economics courses. It may illustrate a sad state, but these courses are very largely classed as 'bull' courses, and even here they proceed upon an engineering theory — the 'Theory of Least Work.' Many of the Faculty members got a large part of their training figuratively swinging a pick on an engineering job, and their rough-and-ready philosophy sometimes imparts to the students a distaste for the slightly exotic 'larger life.'

As a result the attitude of a large number of the students is, 'We know about the "larger life"; we know all we want to about it; let us go to perdition in peace.' For the individual exponent of the 'life,' they have arguments equally as moving as those of Professor Rogers, but they don't sound half as well in print.

Technology has never given an honorary degree, and it is not likely that in the near future the Institute will promiscuously confer honorary degrees on visiting celebrities."

#### "TECH" HAS A HEART

"Professor Rogers of Massachusetts Institute of Technology protests in an article in the TECHNOLOGY REVIEW against the policy of the government of that institution of ignoring celebrities which other colleges welcome and often award degrees to. He especially objected to the ignoring of General Foch. He says it would be not only an honor to the visitor, but of great advertising value to the school. He thinks that the great colleges profit immensely by the celebrations of this kind that occur from time to time. More than that, it gives the students an interest in great men and the things they represent. We have a suspicion that the heads of 'Tech' are actuated chiefly by humanity and do not want to add any more to the burdens which a guest of the nation like General Foch bears than Harvard and Tufts and a score of other colleges and universities put upon him." — *Waterbury (Conn.) American*.

#### "TECH'S ISOLATION"

"Is it wise for a great educational institution, even so famous a school as the Massachusetts Institute of Technology, to 'sit tight in its laboratories, invincibly indifferent to what is going on outside'? Prof. Robert E. Rogers of the English Department at Technology raises the question in the last issue of the TECHNOLOGY REVIEW, and great is the commotion his article is causing.

Some Technology men may feel hurt by some of the jabs the article contains. Evidently the writer intended that the institution and the public should take notice of what he has to say — and he makes his point. If some of the Technology people writhe at his thrusts let them remember that 'faithful are the wounds of a friend.' Why should General Foch come to Boston, and be entertained with formality and courtesy at Harvard, Boston University and Boston College, and 'not

even hesitate' at Technology? Why should a 'distinguished Chinese educator come to Harvard and in the midst of the harassing hurries of commencement time receive there an adequate and dignified welcome and at Technology 'an almost absurdly careless and impromptu reception'?

Professor Rogers is right that students 'benefit by the educational experience which is an inevitable part of the thought and emotion roused by the personality of a great man.' By all means let such visitors as Foch see and be seen by the students of such a splendid school as the institution across the basin. The professor is right in insisting that visitors of distinction to Boston ought not to be permitted to pass Technology by. Of course the institutions benefit by the publicity that follows. 'Does any one doubt,' asks this writer, 'that for every dollar Harvard spends on ceremonies of this kind it gets back indirectly a thousand?' There is such a thing as an excess of devotion to the ideal of mechanically sticking to a job.

The REVIEW's article charges the blame for what it calls 'Tech's Isolation' upon the Faculty. The writer thinks it is due either to a mistaken idea of what an education should be or to a mistaken notion of economy. The public as a rule will indorse his contention that it will do the institution no harm to upset the schedule occasionally in behalf of such a visitor as Foch, and that it will do the students a deal of good.  
— *Boston Herald*.

## MORE ARGUMENTS FOR PSYCHOLOGICAL TESTS

It all depends on who marks your paper — grades vary from 92 to 28 on the same quiz

As one who has, in his day, both marked and been marked, the Quadwangler can well believe the statement from Columbia that "researches now going on have revealed glaring faults in the grading of students." He is quite prepared to accept as correct the following testimony:

In one test a final examination paper in first-year high school English was graded by 142 teachers in 142 high schools. The paper was marked all the way from 64 to 98 per cent. Another examination paper of the same kind was rated by the same 142 teachers of English and the marks ranged from 50 to 98.

A final examination paper in American history was graded by seventy history teachers; one teacher assigned it a grade of 43 and another 90; a dozen teachers rated it as 80 or above, and another dozen scored it as below 55. A final examination paper in geometry was scored by 114 mathematics teachers; as in the case of the English and history papers, it was marked on the basis of 100 as perfect. One teacher marked it as low as 28, and two marked it as high as 92. A dozen teachers marked it as 53 or below, and fourteen marked it as 83 or above.

With the facts as they are, it's a wonder we have any confidence at all in the marking system. If it is true, as was reported some time ago, that among instructors teaching the same subject in the same college to the same grade of students there are some who give ten times as many "A's" as others do; if it is true that identical students in the same course taught during the first semester by one instructor and during the second by another had three times the probability of a mark above 85 in the one case that they had in the other; if it is true that in the elementary courses at Harvard, "A's" were thirty-five times as common in Greek as in English; if it is true that over a period of five years one professor had never permitted a single student to fail, whereas another in the same college reported 300 per 1000 as failures — if all these things are true, of what value are marks anyway, and what subtle influence persuades us to put any stock in them? The answer probably is that we first accepted marks as indices of achievement at a period in our national life when education was less complex and the things taught included largely mathematics, spelling and those other exact subjects in which the differentiation between right and wrong was sharp and clear. In those days an answer to a question was either wholly right or wholly wrong, and the examiner's task was easy. So, having started with marks, we have continued with them and this in spite of the fact that in many of the courses given today — economics, fine arts, history, English litera-

ture, for instance — knowledge is not categorical or absolute. Answers to questions may be partly right and partly wrong, and the degree of correctness is simply a matter of the examiner's judgment.

After all, is it surprising that no two instructors mark the same paper alike? In fact, wouldn't it be surprising if they did mark alike? Think of all the factors entering into the situation. In the first place no two human beings are alike. In the second place, one human individual is not exactly the same two days in succession. One day his digestion may be excellent, physical comfort satisfactory and his mind free of personal worries. Fortunate the student whose examination paper is corrected on such a day and unfortunate the student whose paper is corrected on a day when everything in the examiner's life seems all wrong! Another difficulty in attaining uniformity — perhaps the greatest obstacle of all — is contained in the fact that no two instructors agree on the point which represents 100 per cent. Here again the personal equation must be considered. One man's 100 per cent may be only 80 per cent to another. Naturally the marks which these two men accord a given paper will seriously vary. Some professors are hard markers and some are easy markers. The Faculty members know who is who in this regard and you can safely gamble that the students know, too. In many a Faculty family it is the custom to allow for the enthusiastic optimism of certain professors and to discount their opinions touching the scholastic abilities of such students as happen to be under discussion.

As so frequently happens, it is much easier to make these wholesale criticisms than it is to determine what we are going to do about it. Granted that the present system of marking is entirely unfair, what's the substitute for it? The Quadwangler doesn't know the answer, but he feels that every encouragement should be given to those men and women whose researches are directed to the task of finding a new and more accurate method of grading, a more precise measure of brain power. Of themselves, the so-called mental tests will not solve the problem; all that they weigh is capacity for learning. What we need and want is some scale which will weigh achievement.

The discovery of that new scale will mark a real epoch in American education. Then it will be possible to give the student individual attention and to make college work conform to his individual needs. If a man's capacity — as determined by intelligence tests — is ninety, we will know enough not to be satisfied with an achievement of seventy on his part. On the other hand, a man with a capacity of forty will not be expected to return an achievement of sixty. After all, it's more to the credit of some men to obtain a sixty in a given examination than it is for others to obtain a ninety. — *Boston Transcript*.

## ROBB, '10, II, PRESENTS ANTI-FREEZE MIXTURE TO SHACKLETON

Technology graduate, professor at University of Alberta  
and inventor of note

WHEN Sir Robert Shackleton, the famous explorer, starts the engines of his motor sleds and boats with comparative ease in the deadly cold of the Antarctic regions it will be because of the inventive genius and persistency of Professor Robb, '10, II, of the University of Alberta, and the members of the Associated Aero Research Committee of the Canadian Air Board. Acting in coöperation with the board officials Professor Robb has perfected an ether preparation the use of which permits the ready starting of motor engines at 37 degrees below zero. The formula for the preparation, together with Christmas greetings and best wishes, have been cabled to Sir Ernest Shackleton, who is now on his way south to the Antarctic ice field.

Describing the discovery of the successful formula, Col. E. W. Stedman, technical director of the Canadian Air Board, said that Canada was the only country supporting modern air force facilities where such an experiment could have been brought to a successful conclusion. Engine experts in other countries were hindered in developing ideas along this line by climatic conditions. When the necessity for starting aeroplane engines in intense cold became apparent, air board officials turned the problem over to Professor Robb of the University of Alberta, who after two years of experiment has crowned his efforts with success. Professor Robb's method and the exact formula have not been made public but Colonel Stedman states that in order to ensure the engine used in the experiments being sufficiently cold, it was left outdoors all night, Professor Robb's efforts to start it being confined to the early hours of the morning.

The possibility of Canadian Air Board planes being compelled to land through engine trouble in the northern wastes, or in fact anywhere in Canada, during the winter months, first brought home the necessity of just such a preparation as that discovered by Professor Robb. Formerly, when aeroplanes were compelled to land away from their bases in winter it was practically impossible to again start the engine. Now, however, military, as well as civil airmen, engaged in exploration or other work for government departments will be able to fly in winter without fear of the consequences of stalled engines.

The application of this preparation to ordinary motor engines, automobiles and trucks is considered only a matter of time and will be the means of overcoming one of the chief difficulties of winter automobiling. With the advent of power to start engines at 37 degrees

below zero, motorists who now have to spend a great deal of time warming their engines at the expense of their electric batteries, will not only enjoy far greater comfort but will be under a great deal less expense. The importance of the discovery to business men operating trucks on a large scale can hardly be estimated.

For the last twelve months, Charles A. Robb, professor of mechanical engineering at the University of Alberta, has been conducting experiments with a Liberty "12" four hundred horse-power motor, assisted by Mechanic L. W. Binckstein. Success attended his efforts almost from the start, but it is only within the last few weeks that he has been satisfied that his ether mixture will work satisfactorily in very low temperatures. The crowning achievement came recently when in 37 degrees below weather the engine was started in 45 minutes.

According to Professor Robb the greater part of the time spent in starting was devoted to "supplying up" and the actual time taken after this had been finished was only seven minutes.

The method of procedure which has been adopted in carrying on Professor Robb's successful experiments has been to leave the engine out over night. The water is drawn off and the engine then "supplied up" with gasoline and finally started with a mixture of commercial ether and gasoline.

Professor Robb's investigations have been carried out with a view to improving conditions, which will make winter flying possible and give some degree of safety to flyers who are forced to land far away from civilization. A year ago when the experiments were started an hour and a half was required to get the engine under way in five degrees below zero weather. This year with exactly the same temperature Professor Robb succeeded in getting the engine away in seven minutes. The new invention entirely eliminates the old method of "supplying up" the engine by means of hot water, which would be an impossibility for aviators forced to land in out-of-way places. — *Alberta (Canada) Journal*.

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## SIGMA NU CLUB RECEIVES CHARTER AT CONVENTION

THE Sigma Nu Club of Technology, composed of members of the Sigma Nu Fraternity who have come here from other schools, has been granted a Charter to organize as a Chapter at the Twentieth Grand Chapter Convention held in Philadelphia, December 28 to 31. The local organization has been active as a club and recently took over their present quarters at 583 Beacon Street. Three delegates to the convention from the Club were R. M. Littlefield, '22, Sydnor Hall, '22, and R. F. Hereford, '24.



## COMPULSORY UNIFORMS FOR LOWER CLASSES

Proposed as part of R. O. T. C. work — to go into effect  
next July — perhaps

PROVIDED the War Department grants the Institute uniform commutation before the beginning of the next academic year, 1922-23, all sophomores and freshmen of the classes 1925 and 1926 will be required by the Institute authorities to wear a standard uniform during all exercises conducted by the Military Science department. Provision is also made for those students in the junior and senior classes who are taking advanced Reserve Officers' Training Corps subjects under the supervision of the Military Science department.

This uniform, which is to be worn by members of the two lower classes, will be selected some time during the second term of this academic school year by a committee consisting of two representatives from each class now at the Institute, who will be chosen by their respective classes, Col. J. B. Christian, and some representative of the Institute. It is the plan of the Faculty and Colonel Christian to obtain a suit which will in no way resemble a uniform when the few required insignia, which are to be made detachable, have been removed. The suit that will undoubtedly be adopted will resemble the suit of a well dressed business man, and will probably be of a blue shade. The required insignia is a small cloth design which bears the rating Reserve Officers' Training Corps, United States, with the possible added insignia of a small gold star which will be worn on the cuff of the right sleeve to denote the class.

That worn by the juniors and seniors will be the regulation United States Army officer's uniform which will have no insignia other than that worn by the other two classes. In both instances the uniform will become the personal property of the student after two years. The wearing of the officer's uniform will be optional with the two upper classes in this respect; men who are enrolled in an advanced Reserve Officers' Training Corps course will be given the choice of wearing the uniform or that of attending classes without it. However, students who express their willingness to wear the uniform will be required to do so in writing, which will thus compel them to appear in uniform only when they attend Reserve Officers' Training Corps classes.

In the event that uniform commutation is granted by the Government next year the seniors will be required to wear the uniform but one year before it becomes their personal property. Besides furnishing the funds necessary for the buying of the uniform the Government also furnishes six dollars per uniform per year for its upkeep.

Col. J. B. Christian requests that each class appoint two represent-

atives to assist in the selection of a uniform for use at Massachusetts Institute of Technology in case commutation of uniform is granted.

Prof. E. F. Miller, Faculty director of Military Science, states that the enrollment at Technology in the Reserve Officers' Training Corps units has increased steadily, as shown by the report of enrollment at Technology, this report having been filled out by Col. J. B. Christian, Professor of Military Science and Tactics at Technology. Colonel Christian estimates that about seventy-five per cent of the men really available have been secured.

A number of these men have felt that when enrolled in the Reserve Officers' Training Corps unit they could not fulfill their obligation to the Government to go to a military camp on account of conflicts in time between summer work at Technology and the work scheduled at the military camp.

Acting on the advice of Colonel Christian the Administrative Committee of the Institute sent the following letter to the War Department regarding commutation of uniforms:

"1. Under the provisions of paragraph 12 S. R. 44, request is made for commutation of uniform beginning with the Academic Year 1922-1923.

"2. The Military Science Department has enrolled in five Reserve Officers' Training Corps units 1500 students, and it is desired to adopt a uniform other than the enlisted man's uniform which is now furnished in kind. It is believed that the change will be for the best interests of the Government, the Massachusetts Institute of Technology, and the students."

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## DORMITORY COMMITTEE MAKES FIRST INSPECTION

THE first inspection of the dormitories was completed recently by the Dormitory Committee. The committee was well pleased with the conditions they found existing in the living quarters of the students. This procedure was instituted only this year in an effort by the committee to cooperate with both the superintendent and the General Student Dormitory Committee to see that the students were having the best possible place to live.

There will be an inspection by the Dormitory Committee every alternate Thursday. The examination which they make of the rooms is only to see that things are in good order and that the students are not allowing things to occur which would injure their health or happiness.

Dean H. P. Talbot, chairman of the committee, speaking for the committee, stated that there were no complaints registered against the service the students were receiving, but that the efforts of the committee were only directed towards the better cooperation of the committee and the students.

## FREE COCOA FOR STUDENTS

### The Walker Memorial also lowers cost of meals

WITH the opening of the second term comes the welcome news from those in charge of the Walker Memorial dining-room service that there will be a reduction of prices that will affect practically all of the articles offered on the menus in both the main dining hall and in the grill as well. The management states that the reduction was possible, due to the excellent patronage that the student body and Faculty gave the dining-room service during the first term.

After a careful resume of existing conditions it has been decided to make a marked change in the dining hours. The management realizes that there are students at the Institute who are sometimes required to do without their breakfasts until rather late in the morning. In the past students thus inconvenienced were unable to obtain breakfast at Walker due to the early closing hours. Beginning this term the main hall will be open between the hours of 7.30 and 12.00 o'clock, during which hours breakfast will be served. The lunch hour will extend from 12.00 until 2.45 o'clock in order to enable all those students who have classes up to 2.00 o'clock to satisfy their hunger.

As conditions have been in the past, a student, on learning that he would be unable to get breakfast in Walker late in the morning, would either do without or would be obliged to go to some outside restaurant. The management feels that the new plan to be inaugurated will eliminate all this inconvenience and will cause the students to look on the Walker Memorial dining hall as a Mecca for Technology students, the Faculty, and their friends. At Walker the student will be able to study somewhat, if need be, while eating, a thing which is quite out of the question at outside lunch rooms and restaurants.

The cocoa proposition which has caused considerable comment throughout the vicinity of Boston will be initiated in the lounge room situated in the basement of Building 2. This will be served by members of the dining-room staff between 10.00 and 10.15 o'clock for the purpose of furnishing a stimulant to those who commute and are forced to leave home at such an early hour that lack of time prevents them from getting a sufficiently nourishing breakfast.

Both the cocoa and the crackers, which will contain plenty of vitamins, are to be prepared in the kitchens of the Walker dining-room service so that the student will be insured of a high grade of pure food. As the management is still somewhat doubtful as to the success of this new departure, arrangements for only six hundred students are being made at Building 2.

However, if the demand warrants it, it will be an easy matter to increase the supplies from Walker. Two or three men will be in charge,

and as the period of serving is limited and definite they will have the cups of cocoa all poured ready and waiting for the students as they come in the room, thus enabling them to furnish a large body of men in a short time.

There is an interesting reason for this innovation in the way of mid-morning refreshment. Through the system of physical examinations in vogue at the Massachusetts Institute of Technology it has been discovered that something like forty per cent of the students are improperly nourished. Dr. G. W. Morse, the head of the medical department, is the man who made the discovery, and the remedy is due to the generosity of W. E. Smith, of the Georgian Cafeteria, which has the concession for the restaurant in the Walker Memorial.

"Many of the students are commuters," said Dr. Morse, "and they have to leave home early with only a hurried bite of breakfast or a cake of chocolate eaten on the way in. They stand in the laboratory or sit in lectures all the morning and between eleven and twelve o'clock they get dizzy or faint because of a condition of hyperacidity, due to the long period of inactivity of their stomachs and their efficiency is greatly impaired. I asked Mr. Smith what we could do to improve the condition and he at once offered to supply free cocoa without increasing the cost of the food served at the Walker Memorial. In the ten-minute period before the ten o'clock lecture begins this will be served, beginning with the next term, first in the lounge in the basement of Building 2 and later in other parts of the Institute if the demand warrants."

"I found that I could furnish hot cocoa or hot milk," said Mr. Smith, "without any appreciable cost in the overhead and I felt that it was due the boys to give them enough to eat. So we shall be ready to serve a cup of hot cocoa or hot milk. I think there is more pep in a glass of hot milk than in anything else together with a cracker which we shall make especially and which will contain plenty of vitamins, and we hope that the condition will improve. I should like to see Technology the best-fed college in the country."

## "NONSENSE" SAYS AN ENGINEER

### Letter anent free cocoa and other things

*Sir:* Noting the interview with Dr. G. W. Morse, head of the medical department of the Massachusetts Institute of Technology, published in the *Public Ledger* recently, makes one wonder how much longer the nonsense connected with our larger endowed educational schools and also with our public schools is going to continue. They are now turning out a class of men unfit to live in the world because the people who must work for a living and who have to get up in time for breakfast in order to begin a day's work at seven o'clock instead of eight or nine have already outclassed the college graduate and taken his place in the world.

The greatest service Dr. G. W. Morse could do those poor underfed forty per cent of the students would be to teach them and their families to go to bed at a reasonable hour, so that they could arise in the morning in time and not to have to rush away without eating. This advice applies as well to most classes of workers everywhere. A person should arise at least an hour before breakfast and not leave for work until at least a half hour after finishing breakfast.

A good doctor should also know that his precious students would start out in life better and live longer if he taught them not to bask under the rays of the electric light for hours every night. The average student spends at least one-third, and often one-half, the night under artificial light, usually electric light, which is a vibratory, nerve-racking light full of deleterious rays.

I sincerely hope that these facts may be made public, not only for the benefit of students, but people generally, who seem unaware of the dangers to which they expose themselves, the effects of which are nevertheless sure, even if gradual.—WAGNER FISHER, *Engineer*.

## SUNDAY LECTURES FOR PUBLIC'S BENEFIT

Society of Arts offers course in popular scientific subjects

FOR the purpose of giving the public an opportunity to enjoy to a greater extent the resources of the Institute, the Society of Arts is planning to give a winter series of four lectures of popular scientific interest. The lectures will be given on one Sunday afternoon in each of the next four months. Admission to them is free, and tickets may be obtained by sending a stamped, addressed envelope to the Registrar of the Institute.

At the first lecture, which came on January 20, H. M. Goodwin, '90, professor of Physics and Electrochemistry, lectured on "Light — Visible and Invisible, Illustrated by Color Phenomena." On February 12, Earle B. Millard, assistant professor of Theoretical Chemistry, will talk on "The Chemistry of the Household." At the lecture on March 12, "Radio Communication" will be taken up by Frederick S. Dellenbaugh, Jr., assistant professor of Electrical Machinery and secretary of the Research Division of the Department of Electrical Engineering. The subject for April 9 will be "Sound and Noises," by Prof. Charles L. Norton, Director of the Division of Industrial Coöperation and Research.

The lectures will come at four o'clock on each of the above dates, and will probably be held in Smith Hall, room 10-250. Spectacular experiments are expected to feature each lecture.

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## THE OLDEST PRINTED BIBLE

PROFESSOR EMERSON of the Department of Architecture has presented the Institute with an interesting and valuable relic, a page of the Gutenberg Bible, perhaps the first book printed in Europe, about 1450, with types resembling the old script. The treasure has been deposited in the Institute Library.



# THE AMERICAN STUDENTS' RECONSTRUCTION UNIT

BY PROF. WILLIAM EMERSON

*Head of the Department of Architecture*

AMERICA has expressed her faith in France and her desire to help in many effective and appealing ways. Seldom have both been better exemplified than in the work of the American Students' Reconstruction Unit which, 50 strong, placed the services of its architects and engineers at the disposal of the Ministry of the Liberated Regions for the duration of the summer vacation. It was what the French call a *beau geste* on the part of these students and the many friends that gave them the opportunity. It started through the friendship of a Frenchman and an American, and bore its first fruit in the summer of 1920-21 under the name of the Harvard Reconstruction Unit. Its field of usefulness broadened, and the present organization was planned during the past winter. The man who has been the moving spirit in both organizations is Robert L. Buell of Harvard. The self-sacrifice and devotion with which he has thrown himself into the work has won him friendship throughout the personnel of the unit. Architects, prominent professionally, and others active in the field of education, have gladly seconded Buell's example, so that the 50 students who worked this summer represented 11 universities, and were chosen from 125 applicants presented by 15 centers of education.

The make-up of the unit was as follows: M. I. T., 11; Harvard, 12; Princeton, 9; Yale, 5; Columbia, 4; Michigan, 3; Georgia Institute of Technology, 2; California, 1; Cornell, 1; Pennsylvania, 1; Texas, 1.

M. I. T.'s quota contained the following men, seven of whom were architects and the balance engineers: A. Glenn Stanton, Irving G. Smith, Christopher Carven, Samuel Lunden, George Wiren, James Archibald, D. G. Tarpley, Daniel Sayre, Norman F. Patten, A. Sterling Kelley, Hugh M. Shirey.

At this point it is well to speak of the efforts made by the Tech representatives to do their share towards financing their own group. Merritt F. Farren, '21, who with one other Tech man, Leon Keach, '17, were members of the Harvard Reconstruction Unit, showed a fine unselfishness in giving his time and familiarity with the needs in France towards raising money in order that others might share the advantages that he had already enjoyed. Under Farren's direction a committee was formed that appealed so successfully to Technology's friends that \$2,000 was raised toward the work of the Unit. An almost equal amount had come in from other sources and, as most of the students were able to make some contribution for themselves, the financial needs of Technology's quota were well met.

During the last week in June, profiting by a 30 per cent reduction offered by the French line, the Unit sailed on the "Paris," and reached

France early in July. One and all were forthwith subjected to such a series of luncheons, dinners, receptions, and teas as might well have turned the heads of an older group, but the young heads kept steady even though many an old bottle was opened for their benefit, and soon, thanks to Buell's tireless efforts, the Unit was divided into three groups, each with an appointed leader, and sent to Verdun, Rheims, and Soissons. In these different localities, for the most part housed in wooden barracks and fed at a sort of mess table, the students settled down to their summer's work. In order that it should not be all work and no play, provision was made that every second week-end each student should in rotation have his time at his own disposal from Friday night until Monday morning. This arrangement, except for a rather too strong tendency to specialize on trips to Paris, worked admirably, and enabled all those interested in sketching to learn and appreciate France and the wealth of its possibilities so far as it lay within their reach. For others there were many other trips, and each location varied sufficiently from the others to offer a wide range of possibilities.

In the course of the summer Professor Meeks of the Yale Architectural School, and Professor Boring of Columbia, visited the different Units; and the writer of this article also profited by his presence in France to see what was being accomplished, and the conditions under which the students were living.

At Soissons the work consisted of making surveys and drawings of the ruined buildings. Plans were made for an open-air theatre, a new laundry, a club house, and an addition to the Hotel de Ville (made under the supervision of the city architect).

In addition to the work done in the city of Soissons, six men — Baker, Seyster, Stillwell, Shirey, Wachter, Metcalf — at the request of the Prefect of the Aisne went to Evergnicourt, a small town in the eastern part of the Department, about the first of August. Here, under the direction of the head architect of the Aisne, they made a complete survey of this small village, as well as detailed plans for the new school which will include two classrooms, the mayor's offices, and a room for a small fire engine. They also completed the plans for the improved layout of the village, including certain rectifications in property lines.

The Unit at Rheims drew up plans for two groups of school buildings, each for 800 pupils, and made plans for the enlargement of the open-air school at Villers-Allerand. Working drawings were made for a town hall in Courcelles-Sapicourt and of a model farm in the Department of the Marne. Surveys were made of three city blocks, including all existing walls and property lines. This work was immediately accepted by the city engineer for immediate and permanent use. Also several topographical surveys were made as well as working drawings and calculations for a new bridge at Fismes.

At Verdun the group made project and working drawings for a Mairie-Ecole of Boureilles, Dombasle-en-Argonne, and of Bantheville, churches for Bantheville and Fauborg; and a Presbytere for Dombasle-en-Argonne and Bantheville.

Work of the students of engineering included complete survey maps of the towns of Belleville, Etain, and Vacherauville, as well as a topographical survey of the ramparts of Verdun in the vicinity of the station, where they are to be torn down to make way for new streets and buildings.

In making a report on the work at Verdun special credit must be given to the "Chef" of this Unit whose perfect knowledge of French and whose unusual power of leadership, in addition to his technical ability, are responsible for the maintenance at all times of a perfect *esprit de corps*, an extremely high standard of work, and excellent coöperation with the French officials. The spirit of devotion to his work and the high esteem in which he was held by his men and by the French officials are largely responsible for the fame which this Unit gained throughout the Department of the Meuse.

This in itself is a fairly impressive result for the summer vacations of a group of students, but there are many other incidental results that are highly valued by the students and that will unquestionably produce a lasting impression on their future lives and work. An excellent instance is the good fellowship engendered in the Verdun group which has already resulted in a reunion that was full of the summer's enthusiasm. The pleasantest of relations were established between the students and the architects and engineers for whom they worked, as well as with the many other humbler folk with whom they came in contact.

French appreciation of their work was expressed by the head engineer of Verdun who said upon the departure of these students: "No architects or surveyors ever in my employ have done such rapid and accurate work as you American students."

Those of us who are interested in the future of this movement both as a help to the French, as an expression of American sympathy and as a benefit to the students, must recognize clearly certain possibilities that may preclude another Unit's formation next spring. While we all, French and American alike, may recognize that as a means to promote good feeling between our countries it could hardly be bettered, yet we Americans must not lose sight of the fact that though our students receive nothing for their time, and all their transportation expenses are paid, still for the past two years the French Government out of its own overtaxed purse has provided both board and lodging for our boys, so that for the future we might well undertake to assume the cost of their meals. Looking at the situation from another standpoint, any business man will readily recognize that there is little economy for an employer in having to provide work for eight or ten weeks for a group of well-intentioned foreigners who are familiar neither with the language nor with the customs prevalent in the office, and must leave about the time they are beginning to be useful. No word of this sort has been said by a Frenchman, but that this is sound reasoning we must all admit. We should further agree that it would be defeating our highest purpose if, in our effort to do a service to our French friends, we really imposed an added burden upon them which they in their delicacy were loath to call to our attention. — *The Tech Engineering News.*

## "NO FIRST-CLASS ENGINEERING SCHOOL IN AMERICA"

Quantity production a menace — cultural studies should not  
be reduced — meeting of A. S. M. E.

"QUANTITY production" in American colleges was condemned by Prof. A. C. Christie of Johns Hopkins University in an address before the American Society of Mechanical Engineers, which devoted its sessions on December 8 to forums on engineering education in observance of Education Week proclaimed by President Harding. This condition he called most unfortunate, saying that it gave little or no opportunity for character building.

C. F. Pratt of Schenectady, N. Y., of the General Electric Company, declared that a careful study of a large number of college graduates employed at the different works of the company indicates that "our educational institutions are developing young men of real ability for the industry." He opposed reducing the amount of cultural studies to specialize more intensively on technical subjects.

Engineering education, he said, undertakes too early specialization of the student. He criticized "the lack of faculty offered to the more capable student to rapidly advance." He said that it was significant that a noticeably large number of accomplished theoretical engineers and research laboratorians have either received all their education or pursued post-graduate courses at European universities.

Among the educational sessions held by the society was one on "Professional Engineering Education for the Industries" jointly with the Society for the Promotion of Engineering Education. Prof. C. F. Scott of Yale presided. Other speakers were J. E. Otterson of New Haven, president of the Winchester Company, and Dean Dexter H. Kimball of Cornell, now president of the American Society of Mechanical Engineers, who discussed "The Engineering School and the Industries." Mr. Otterson's subject was "College Education as Related to Industry."

Under the auspices of the Committee on Relations with Colleges, a student session was held. For the first time in the society's history, members of the Society's student branches, representing fifty-nine American universities and colleges and more than five thousand students, conducted the session at which Prof. W. F. Pearson of Brown University presided. Among the speakers were W. K. Ramsey, Massachusetts Institute of Technology, George E. Lyon, Renssaeler Polytechnic Institute, Troy; J. M. Spitzglass, Armour Institute, Chicago; and J. M. Robertson, University of Kansas.

Professor Christie in his address quoted Dean F. L. Bishop of the University of Pittsburgh as saying that there is no first-class engineering

school to be found in America. Prof. Comfort A. Adams of Harvard, formerly chairman of the National Research Council, he said, supported this view. He quoted Doctor Adams as asserting that he could "guarantee that he could prove in a five-minute oral examination that eight to ninety-nine per cent of the graduates in electrical engineering from any institution in the country did not understand in a thorough fashion the fundamentals of the subject."

Professor Christie said that the work in foreign colleges is in general of a more advanced character than in America. The students, he found, are older and more mature at entrance to college. Professor Christie called for a national policy on engineering education and the adoption of a common code of ethics by all national engineering societies. The Engineering Department of Johns Hopkins, he said, was now trying to raise standards by deliberately limiting attendance among the upper classmen to a small number of men. Professor Christie said that it was unfortunate that there seems to be a tendency to organize certain colleges on the factory organization idea of quantity production. This was due, he said, to steadily increasing enrollments in all colleges with the result that instruction staffs are overworked and underpaid.

"The new national policy on engineering education," he continued, "requires greater financial support for the colleges. Greater emphasis must be given in instruction during the four-year undergraduate period to fundamental course, leaving special professional training to graduate years. Certain colleges should be designated as graduate schools and adequate provision made for their proper support both by government agencies, by private endorsement, and by the industries. Scholarships should be provided by the State, by industries, or by the profession which will enable eligible undergraduates from all colleges to continue their work in the graduate schools."

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## LITERARY NOTE

*The New York Sun* of December 21 refers to us as the "Boston Institute of Technology." It is extraordinary how ignorant these provincials still are! Educate 'em, brothers!



## BOIT PRIZES FOR PROFESSOR ROBINSON'S STUDENTS

A fund for a yearly prize to develop good English at the Institute

THE final selection of the winners of the Boit Prizes resulted in the choice of "Living Conditions at Sea, as Related to Shipping Efficiency," by K. E. Schoenherr, '22, for the first prize, "The Baur Carbonic Company," by B. R. Haneisen, '22, for the second prize, while "The Union that Was Not Wanted," by D. E. Walch, '22, received honorable mention.

The final selection was made by a committee composed of Mr. Charles H. Ely, '98, an architect associated with Monks & Johnson Co., of Boston, Prof. W. H. Timbie, of the Electrical Engineering Department, and Mr. Thacher Nelson of the advertising and sales department of the Arnold-Roberts Paper Company.

The first selection of ten papers out of the hundred submitted was made by the editorial board of *The Tech Engineering News*, under the direction of B. W. Thoron, '22, editor-in-chief, after a careful reading of each one by at least two men. In this manner twenty-five were selected, from which the ten best were submitted to the final committee. The editors reported that there were at least ten more excellent papers, so that the selection of the final ten was very difficult.

In making the final awards, Mr. Ely said: "The committee has awarded the first prize to K. E. Schoenherr because the writer not only handled his subject well, but is to be commended for his logical treatment of material which required great breadth of view for its proper consideration. The second prize is awarded to B. R. Haneisen for concise handling of a topic with which he is obviously familiar. D. E. Walch received honorable mention for a clever narrative of an interesting experience."

The ten papers selected by the editorial board of *The Tech Engineering News* are: "Power Transmission and Industrial Development," by H. R. Ten Eyck, '22; "The Baur Carbonic Company," by B. R. Haneisen, '22; "Living Conditions at Sea as Related to Shipping Efficiency," by K. E. Schoenherr, '22; "The Union that Was Not Wanted," by D. E. Walch, '22; "A Little Story of Efficiency," by M. S. Howe, '22; "Courtesy in Industry," by H. B. Gray, '23; "Cattle Raising in Nevada," by G. M. Nauman, '23; "Personal Observations in Salesmanship," by J. H. Mumper, '23; "The Duties of the Business Manager of *Technique*," by H. H. Flather, '23; and "The Pelham Bay Naval Training Station," by H. B. Stevens, '23. According to F. P. Squibb, '23, undergraduate editor, it is very probable that several of the best and most suitable papers will be published in early issues of the journal.

The prizes awarded were \$50 and \$25, respectively.

By the will of the late R. A. Boit, noted insurance man of Boston, there was given a considerable sum of money, the interest from which



is annually appropriated for some purpose leading to the development of good English at the Institute. This year the appropriation has been granted to Professor Robinson to be used in his general courses as prizes for the best essays written on some subject connected with the industrial or business relations of the country. Two prizes are to be awarded each term, and the students taking course E58 are the contestants for the honors during this term. By the rules of the contest, the choice of the subjects were to be approved by Professor Robinson before November 1, and the manuscripts all handed in by the end of the month.

The reports handed in cover a large variety of subjects. Although most of them deal with some business or general industrial question, some of them are quite technical in descriptions of various machinery and appliances, while some even wandered across the seas, dealing with conditions as they exist in the countries of Europe. The editors of *The Tech Engineering News* are unanimous, however, in their praise of the general character of all the reports. They all show deep thought, and many also reveal extensive study and knowledge on the part of the contestants. But true to the spirit of the donor the essays are judged very much for their form. Papers written as reports were expected to be according to the prevalent style of engineering reports, were also to be logical, systematic in arrangement and clear and concise of expression.

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## RADIO SOCIETY MAKES BEST TRANSATLANTIC TESTS

THE Tech Radio Society has succeeded in transmitting clearly audible messages to the other side of the Atlantic Ocean. As a member station of the American Radio Relay League, the society has participated in the nation-wide trials for the first amateur station to consistently transmit messages to Andossan, Scotland, with the regulation apparatus prescribed by the amateur radio rules.

These limit the power of an amateur outfit to one-half a kilowatt and a wave length of 200 meters, consequently considerable honor rests with the Institute society if the decision is finally rendered in their favor. The Tech station with a comparatively meager installation is well ahead of the Harvard Radio Society's laboratory, having repeated several tolerably clear messages to Andossan while the Harvard has not yet succeeded in being heard. This report has been sent back by high-power radio during the past week by Paul Godley, the special representative of the League of Scotland.

During six nights of every week in the Institute year a watch is on duty in Building 35 and messages are constantly being relayed through the station, sometimes to the number of 200 a month. Over 80 per cent of these get through. In addition to the wireless telegraph, the society operates a wireless telephone.

## MUSICAL CLUBS WIN FAVOR

### Letters to Dean Talbot praising holiday tour

CLOSE upon the heels of favorable news criticisms, concerning the recent trip of the Combined Musical Clubs, come letters from the alumni themselves lauding the attitude and appearance of the Clubs on the trip.

James H. Haste, '96, chairman of the Concert Committee of the Technology Alumni in Rochester, who sponsored the concert of the Clubs there on December 27, wrote the following letter:

*Dear Professor Talbot:* I thought you would be interested to know that the Technology Musical Clubs gave a concert in Rochester on December 27 and that the affair was a success from every point of view. The boys gave an excellent concert, the attendance reached the capacity of the hall and everybody enjoyed it. A luncheon for the boys was served at Kodak Park at noon, after which they spent two or more hours visiting the works. Everyone that I have talked with was very well impressed with the boys and the way they carried themselves.

Sincerely yours,

(Signed) JAMES H. HASTE, '96,  
*Chairman, Concert Committee.*

Donald O. Dunn, '16, of the Technology Club of Cleveland wrote the following letter:

*Dear Professor Talbot:* As you are probably aware, the Combined Musical Clubs from the Institute, gave a concert in Cleveland, on the evening of December 28, and I am writing to tell you how very pleased and gratified we all are over the showing that they made.

Some of the older alumni were at first rather skeptical as to the advisability of our boys coming out here, particularly as they would, in a measure, be in competition with both local talent and the dramatic organization of some of the best known Eastern universities. However, the concert they gave very definitely proved to everyone present that the Institute undergraduates were fully as good, if not better, than anything the other colleges had to offer.

To my mind, however, the more important conclusion is that the Technology student is not of necessity limited to the laboratory or the drafting board. This criticism has been made to me by prominent business and professional men of this city, on more than one occasion.

The boys were a clean-cut and thoroughly likeable crowd and deported themselves in a highly satisfactory manner during their stay in town, and at the close of our party the husband of one of our most influential patronesses informed me that he was particularly pleased at the total absence of what he chose to term "hip-pocket stuff." He added

that this was a very marked contrast to some of the other college men who were in town during the holidays.

We all hope that you will let the boys come out this way again and we can assure you that they will meet with a very hearty welcome whenever they do. With kindest regards, I am,

Very sincerely yours,

(Signed) DONALD O. DUNN, '16.

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## NEW ALMA MATER SONG PROPOSED

Three Institute activities combine to offer \$200 award for best written song of year for four years — loving cup to be final award

A PLAN is at present being evolved to give Technology a new Alma Mater song, to replace the old "Stein Song" that has been used for years past. Tech Show 1922, the Musical Clubs and *The Tech*, Volume XII, are contributing to make up a fund of \$200 to be awarded to the writer of the best Technology song between now and Junior Week.

The plan is to make the award of \$200 each year for the next four years. The four songs selected in this way will then be judged and the best will be taken as the song of Technology. To the winner at the final choice a large silver loving cup will be presented. The Alumni Council will be given an opportunity to cooperate in raising the yearly fund and in making the award of the cup. Tech Show, the Clubs, and *The Tech*, together with the Alumni Council are to judge the songs entered and determine the winners. Those of the student body or any of the Alumni wishing to contribute will have the time until Junior Week to prepare their entries.

The idea in bringing forth a new Alma Mater song is to secure something more distinctive for Technology than the "Stein Song." The popularity of the "Stein Song" is unquestioned, but it is felt that such a song, containing not the slightest reference to Technology, is hardly representative of the school.

## GOVERNMENT SERVICE FOR ENGINEERS

### Former Secretary Redfield addresses upper classmen

IN an hour address full of first-hand facts and reminiscences, the Hon. William C. Redfield, secretary of commerce and labor in the Wilson cabinet, recently detailed the scientific services of the Government to a group of upper classmen. He urged Technology men to consider the infinite variety of scientific work offered in the various government services to every type of engineer and worker in pure science.

"Not only do the scientific services of the Government embrace an unlimited range of subjects in pure and applied science, but they act as the best preparation for an entrance into the ranks of big business. The big business interests yearly draw out of government service scores of young men who have proved proficient in their special fields. This loss to the Government is gradually being overcome by a general increase in salaries.

"In connection with this," continued Mr. Redfield, "let me say that in all my experience with the scientific services of the Government I never came across any playing of politics. The Civil Service eliminates this and besides the type of man in charge of these services is concerned only with the real worth of applicants."

Mr. Redfield prefaced his remarks by saying that although he himself was not an engineer he had served as president, vice-president, treasurer and director in many engineering and construction companies and had been forced to study the principles of engineering the better to carry on his duties as executive.

"Let me congratulate you young men," he continued, "in being attached to a profession that has such a deep element of romance in it. This is, I think, especially exemplified in research.

To me it seems like lifting a darkened veil which separates our ken from greater things. In research you are continually working in the light of past and present knowledge to pierce through the black wall of the unknown. The research departments of the Government offer facilities in every branch of pure and applied science.

The value of research was especially valuable during the war. In this connection let me tell you that the total time between the first rough drawing for the Liberty motor and the first explosion of the completed model was exactly thirty-one days.

I do not mean to stress the research side of the scientific services of the Government. The various fields of applied engineering offer a variety and a thoroughness that is unparalleled. Perhaps the best example is that of the geodetic service, where the men may be taken from lighthouse construction to charting the currents of the Pacific,

or ordered to the navigating deck of Navy or other government ships after having completed a survey of the Rocky Mountains.

In my opinion the rarest engineer is the air engineer — the engineer trained in the control of the atmosphere. But I do not wish to leave you with the idea that the standard branches of engineering are overcrowded or exhausted. The 'gridiron' surveys of the United States are far from being completed; far-distant India is better surveyed than is the United States, and only too many ships are lost yearly because of the lack of proper current charts of the Pacific Ocean."

Mr. Redfield was enthusiastically cheered by the student body and left to make a tour of the various departments of the Institute.

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## FREELANDER, '91, IV, WINS PRIZE

### Traffic regulation on Fifth Avenue by signal towers

J. M. FREELANDER, '91, has been honored by the Fifth Avenue Association for his design of the five new signal towers which they are to present to New York City for regulating traffic on Fifth Avenue between 34th and 57th Streets. The designs were accepted by the Association as being the most practical as well as the most appropriate for the dignity and beauty of Fifth Avenue. In addition to the prize Mr. Freelanders will be retained by the association as the architect to prepare the working drawings and supervise the construction of the five towers. The towers are to be almost entirely of bronze with granite base four feet square and three feet high. They will be twenty-three feet in height. The base is to have granite "striking blocks" at each corner to fend off traffic and to protect the tower itself. The towers will be heated by means of an electric stove.

Mr. Freelanders is a prominent New York architect who became internationally known a few years ago when he won the competition for the monument in honor of Perry's victory on Lake Erie. He was made a Chevalier of the Legion of Honor by the French Government in recognition of his architectural prowess and for his work in furthering the French style of architecture in this country.

He is a graduate of the Institute, being a member of the Class of 1891, and of the Ecole des Beaux Arts in Paris, being the first American boy to receive a degree from the latter school when he graduated in 1895. For fourteen years he was president of the American Group, Societe des Architectes Diplomees, and is a member of the National Academy of Design and a trustee of the French Institute in the United States. Some of his best-known architectural work, in addition to the Perry Monument, stands in the National Home for Disabled Soldiers, at Johnson City, Tennessee, the Portland, Oregon, Auditorium, and the Harlem Hospital and Traders National Bank Building in New York City.



## AIR SERVICE OFFERS EXCEPTIONAL FUTURE

### Institute unit well equipped

MANY and varied are the opportunities offered by the Air Service Unit at the Institute, of which about forty-five members of the junior and senior classes are taking advantage. The unit has at present approximately thirty-five actual members of the Air Service Unit who have already passed the searching physical examination required by the Government. To members and a few others who are taking the course in Air Service but who were unable to pass the physical examination the Government has placed at their disposal an almost unlimited amount of apparatus and literature, which is installed in a large room in the basement of Building 1.

In this room are located two Hispano-Suiza motors and one Liberty motor. The Hispano-Suiza motors are 300 and 150 horse-power, while the Liberty is a 400 horse-power motor. The different classes of juniors have been taking down and assembling the 300 horse-power Hispano-Suiza motor, which at present is being timed by Maj. J. C. McDonnell, who is in charge of the Air Service here at the Institute. The Liberty motor is the type of engine which the juniors will become acquainted with during their summer course at camp. Seniors are initiated into the intricacies of the Hispano-Suiza motor, as this is the type of engine which they will use in the event they take up flying after their course is completed at the Institute.

Besides various convertible sections of terrain, which are used by the instructors in explaining the appearance of the ground as viewed from the air, there are various machine guns of the Vickers, Marlin, Lewis, and the Browning Air Craft type, while bombs of the one hundred-pound, three hundred-pound, small fragmentation, and one-inch incendiary types are on hand to be examined. The room is also equipped with a large reading table on which may be found practically all of the up-to-date technical magazines containing matter of both aeronautical and radio interest, while above the table there are several receiving telephones which are connected with a buzzer outfit which enables men to practice radio telegraphy.

Another attractive feature of the Air Service is the privilege the members are granted to take free trips at any flying field in the country. For the men here at the Institute, Framingham is the nearest station, and during the year the men make up parties of from four to eight men to take the trip out to the field where they are entitled to a flight provided there is an aviator there to pilot them. At present Lieutenant Moffatt is the only officer located at the field. One of the interesting and accommodating features of the service was brought to light when H. J. Chapman, '22, was allowed to take the trip from Framingham to



New York in order that he might attend the Army-Navy game. He was warned about bad weather, but took the trip nevertheless, and was obliged to stop over in New York for a week due to unfavorable weather conditions.

Neither Maj. J. C. McDonnell nor Capt. W. B. Wright, Jr., are allowed by the Military Science Department to take up men connected with the Institute. This restriction is made so that in the event of an accident to a machine piloted by an officer connected with the Institute, the Institute could not be sued by the Government.

Students completing two years of Air Service training here can upon graduation enter the United States Air Service for a period of six months at a salary of \$280 a month.

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## NOTES FROM THE ROGERS BUILDING

### Students in architecture doing many interesting things

STUDENTS of the department of architecture of the Institute are at work on a problem to be completed January 15, which embraces designs for a hypothetical building to be added to the Technology group in Cambridge for housing all the student publications of the Institute. These include the TECHNOLOGY REVIEW, *The Tech Engineering News*, *The Tech*, and *Voo Doo*. The plans are to include suitable offices and lounging quarters and the exterior must conform to the general architectural style of the group. The architectural students are also at work on a plan for a hypothetical boat house for the Technology crew.

The Technology Musical Clubs have offered as a prize for the design for a poster, adjudged best in a competition of architectural students, two tickets for each of the fall and spring concerts in Boston next year.

On the bulletin board in the Rogers Building, the headquarters of the department of architecture, has been posted a list of the various prizes offered in the department with space for the name of the winner of each as he is announced. With each prize goes also the department medal which Prof. William Emerson, head of the department, had struck last year. The total number of awards is nineteen and the amount available is \$2030. This includes three new prizes of \$10 each donated by architectural fraternities, two by Luxor Temple of the Scarab fraternity and one by the Triglyph fraternity.

Albert Ferran, the new Professor of Architectural Design, arrived early in January with his colleague, Prof. J. J. Haffner, who occupies a similar post at Harvard Architectural School. They are the guests of Professor and Mrs. Emerson until they find living quarters. As a welcome to Professor Ferran the Architectural Department held a smoker in the Commons Room of the Rogers Building on January 18 and early in February a formal reception is planned.

## STUDENTS COMPLETE TERM'S REGISTRATION

New system of registering initiated this term — new class cards

REGISTRATION for the second term was completed at 1.00 p.m., December 31. All students who failed to register before this time will be charged an additional fee of five dollars. A new system of registering has been incorporated this term. At the end of last term each student received in one of his classes an envelope containing the same material as has been delivered previous years. This material was returned at the following exercise. Before Saturday noon, December 31, the students were to secure from the headquarters of their courses approved registration blanks.

The third step of the registration was the payment of tuition. Since mailing tuition has been permitted most of the students have taken advantage of this system, and the long waiting lines for which registration day was noted have been nearly eliminated. However, there were enough procrastinators this term so that those who paid in person during the last day were obliged to stand in line for over half an hour.

At the time of payment of tuition the student received a booklet of instructors' class cards which take the place of the former blue cards, which have proved impracticable. These are to be filled out, and one left with the instructor in each subject at the first exercise. In case the subject consists of separate sections for laboratory or lecture, one card must be made out for each section. In changing sections before January 9, 1922, the student must obtain from the instructor his class card and stub and deliver them to the new instructor.

If a student drops a subject, or leaves during the term, he should ask the instructor to give him his class card, signed by the instructor, with date of last attendance. This card must be returned to the registrar before registration is cancelled or any fees returned.

Students who register for subjects which are not approved by their department or first-year committee will have their names removed from the rolls of subjects which, by their standing, they cannot continue or enter.

The registrar says that many students go through an entire course without knowing the name of their instructor. Quite frequently a student indicates on his examination book that he does not know the name of his instructor. Therefore Professor Humphreys has requested that each instructor write on the board at the first exercise his own name and the name and number of the subject to be studied.

There are about seventy-five or one hundred junior freshmen registered. This year freshmen who failed enough subjects to make it necessary for them to repeat their term's work are being allowed to enter the junior freshman class. For this reason not as many men are leaving the Institute, for most of the men who left previous years were freshmen.

## FRATERNITY SCHOLARSHIP RECORDS

Published for last year and for the present term

ACCORDING to a survey of the scholarship records at the Institute for the year ending June, 1921, and recently published the fraternity men are found to be slightly below the average of the rest of the student body. On a scale of 240 as a maximum the four undergraduate classes had the following ratings: first year, 177; second year, 185; third year, 188; fourth year, 180; making an average for the entire student body of 183. Students in fraternities had an average equal to that of the freshman class, 177.

The standing of each of the fraternities, from the highest down, was as follows: Zeta Beta Tau, Sigma Alpha Mu, Tau Delta Phi, Tau Epsilon Phi, Chi Phi, Alpha Tau Omega, Sigma Alpha Epsilon, Lambda Phi, Delta Psi, Lambda Chi Alpha, Theta Chi, Sigma Chi, Phi Kappa, Phi Gamma Delta, Phi Beta Epsilon, Theta Delta Chi, Beta Theta Pi, Theta Xi, Kappa Sigma, Phi Kappa Sigma, Phi Sigma Kappa, Delta Tau Delta, Delta Kappa Epsilon, Delta Epsilon, Phi Beta Delta.

In this list Theta Chi has an average the same as that of the whole student body, 183.

Before the war for two consecutive years the relative standing of the fraternities was studied. In the first the result showed fraternity men slightly below the rest, but in the next the standings of the two bodies were identical.

The records as published for the term ending at Christmas, 1921, show marked changes in the fraternity rank list.

- |                        |                      |
|------------------------|----------------------|
| 1. Theta Chi           | 14. Phi Beta Delta   |
| 2. Sigma Chi           | 15. Sigma Alpha Mu   |
| 3. Zeta Beta Tau       | 16. Phi Kappa Sigma  |
| 4. Delta Kappa Epsilon | 17. Lambda Phi       |
| 5. Delta Psi           | 18. Theta Delta Chi  |
| 6. Phi Beta Epsilon    | 19. Chi Phi          |
| 7. Tau Delta Phi       | 20. Lambda Chi Alpha |
| 8. Sigma Alpha Epsilon | 21. Theta Xi         |
| 9. Alpha Tau Omega     | 22. Kappa Sigma      |
| 10. Beta Theta Pi      | 23. Phi Gamma Delta  |
| 11. Delta Tau Delta    | 24. Phi Sigma Kappa  |
| 12. Delta Epsilon      | 25. Phi Sigma Delta  |
| 13. Phi Kappa          |                      |

## FERRAN AND HAFFNER

### New teachers of design from France for both Technology and Harvard

WITH the beginning of the new year the schools of architecture at Technology and Harvard will have as professors of design two close friends, both of French blood, both winners of the *Prix de Rome*, both interested in bringing about a closer coöperation between two great architectural schools.

Upon their arrival, it is said that Boston will be the only place in the country where two *Grand Prix* winners are united in teaching architecture in schools which coöperate closely. The departments at Harvard and Massachusetts Institute of Technology frequently engage in "conjunctive problems" in architecture, a fact which will give Ferran and Haffner a chance to work together and supplement each other's gifts. The two men, both of whom speak English fluently, are close friends.

Albert Ferran, Professor of Design at Massachusetts Institute of Technology, was born at San Francisco in August, 1886, of French parents. His father has become a naturalized American citizen. He lived with his parents in California until 1902, and then went to Paris.

In 1904 Ferran entered the *Ecole des Beaux-Arts*, where he worked as a student and at the same time did practical work in the offices of French architects until 1914, when he won the *Grand Prix de Rome*. He had already received his degree in 1910. He was a pupil of Victor Laloux.

As a child of French parents, Ferran was a French citizen under the French law, and as such did military service. The war broke out after he had won the *Grand Prix*. He then entered the army and spent a large part of the five years of war at Salonica with the French troops. While there he made use of his opportunities to make measured drawings of the Monastery Lavra at Mt. Athos, and from these he is now doing the principal work for his "Envois de Rome," on which he was until recently engaged at Rome.

Jean Jacques Haffner, who will become a Professor of Design at Harvard, is an Alsatian. He was born in Stuttgart some thirty-six years ago, and from 1907 to 1913 studied at the *Beaux-Arts*, where he was one of the most prominent students.

He was Logiste for the *Grand Prix* on two separate occasions and won first prize in three competitions in the *Beaux-Arts*, the *Concours Chevenard*, *Concours Roux* and *Concours Rougevin*, as well as receiving a large number of other honors. Like Ferran, he was a pupil of Victor Laloux.

He served in the war for four years and was severely wounded. At the end of the war he was awarded the vacancy in the Villa Medici at Rome to replace one of the holders of the *Grand Prix de Rome* who had

died during the war. By virtue of this position, which gives him the status of *Grand Prix* winner, he now holds the honorary position as government architect for the French town of Albert.

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## NEW DEPARTURES IN GENERAL STUDIES

### Large registration for courses in music and public speaking

A NEW general study, entering a field never before approached by the Faculty, is being offered to the junior and senior classes for the second term, beginning in January. The course, *Appreciation of Music*, is being tried more or less as an experiment, its continuance in other terms to be determined by its popularity. It was thought by the Faculty that it would be very difficult to obtain a sufficient number of students to form a class, but Mr. Penfield Roberts, instructor in English, and music critic on the *Boston Globe*, reports an enrollment of over eighty, not including "listeners" from the student body and instructing staff.

Originally, Mr. Roberts planned to make the course essentially an elementary one, presupposing no knowledge on the part of those taking it. It seems, however, that there is an element of considerable size here at the Institute that has an acquaintance with good music to such an extent that it desires a course of a more advanced nature. Such demand for such an advanced course has developed that two sections have been formed, the second one to be less elementary than the first.

The subject matter will be a study of the structure of musical composition, with a comparison of popular and classical pieces. Included in the course will be musical selections given by various persons. These will be used as illustrations of the subject matter covered in the classroom. Further musical work will consist of attending at least one Symphony concert during the term, and writing a report on it.

The old course in public speaking given by Prof. A. T. Robinson, until it was dropped during war time, reports a large enrollment also. It is in charge of Messrs. Copithorne and Fuller of the English department. Mr. Copithorne, in charge of the course, has expressed himself by saying that in offering this course the Institute does not attempt to present a complete course in oratory, but rather to train the student to express himself at the proper time and in the proper form, a necessity which the engineer is often called upon to meet.

Since at Technology the occasion does not present itself at which the students of such a course can speak in public, they will address only the members of the class. The course is given by means of large lectures and small speaking groups.

The reinstitution of this elective subject is another indication that we are returning to the normalcy of peace, due to the fact that it was dropped from the schedule partly as a "war measure" during those days of strict economy. This is the second extra subject which the English department has added to next term's curriculum.



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## CHICAGO'S LIVE ALUMNI CLUB

FOR the last two months the REVIEW office has been in receipt of a large amount of most interesting material showing what the officers of the Technology Club of Chicago are doing to put their organization on the map and to make the name of the Institute well known in the Windy City. The officers are John M. Frank, '07, president; R. D. Flood, '96, vice-president, and D. A. Tomlinson, '12, secretary and treasurer. B. R. T. Collins, '88, is the Boston representative on the Council, also on the job.

On Mr. Tomlinson, apparently, the bulk of the work falls, and from this end we imagine that the excellent publicity work is his; but, any way, the Chicago Tech Club is undoubtedly the liveliest organization of Tech men we have heard anything about. And it seems up to other clubs to learn its methods and go and do likewise.

Weekly luncheons at the Engineers Club average from twenty-five to thirty men, and on exceptional occasions, as when Prof. E. B. Wilson spoke on Technology affairs and on Einstein's theories, there were nearly forty men. Also a weekly post card, full of spirit and pep, making announcements, keeping men interested, telling them what they should do, keeps the Club on its toes, as during the recent two-week campaign to ensure the success of the Musical Clubs concert on December 30 in the Blackstone.

The Club went at the problem in fine style, secured sixty-six guarantors, divided the entire membership up into committees, ticket-selling teams, etc., sold an unexpectedly large number of tickets, saved the guaranties, and made a profit for the Musical Clubs and the local organizations. There will be a full story of the concert later, to show the other clubs how it was done. The notes in the local association news are only advance material, so this article was added before we went to press to let the Chicago Club know that we here in Boston appreciate the work that is being done out there and to give credit where credit is due.

Mr. Tomlinson (see "In the Public Eye") seems to be responsible for this activity, for a large and keenly interested membership, and the secret of his success seems to be a copious use of letters and post cards; vigorous, chummy, continuous publicity, and the constant evocation of the real Tech spirit in the Chicago men. It comes the nearest to the ideal that we have had news of anywhere. And it does not depend on a large city or a large club. The same methods wherever two or three are gathered together, with an energetic and interested secretary, will bring the same results. To show how well the Chicago Club rallied round the Christmas Musical Clubs concert we print the list of those subscribing to the concert, about one hundred and twenty out of a total Chicago list of three hundred and fifty Tech men in Chicago. Over a



third! Is that a good record? We'll say it is. Here are the names, by classes:

1873, Felton; 1874, Blunt, 1876, Copeland, Raeder; 1878, Albright; 1879, Montgomery; 1884, Robinson; 1885, Greeley; 1886, Farmer; 1887, Shortall, Schmidt, Sturges; 1888, Jordan, Nichols, Perkins; 1889, Merrill; 1890, Fox, Flood, Kern; 1891, Lipman; 1893, Bumstead, Shaw; 1894, Newhouse, Clement; 1895, Lothrop, Le Bosquet; 1896, Drum, Harrington, Sturn; 1897, Deavitt; 1898, Tallmadge, Pen Dell, De Golyer; 1899, Riddle, Watkins, Gillson, Riddle; 1900, Holbrook, Leonard, Ingalls, Keith; 1901, Higgins, Chase, Moore, Pearse, Bouscaren; 1902, Curry, Isaacs, Fitzgerald; 1903, Ferry, Cook; 1904, Chapin, Lowry, Clarke, Phinney; 1905, Brown, Payne, Jones, Lowe, Harrington; 1906, Banash, Warren, Blake, Littig; 1907, Frank; 1908, Bentley, Kinsman, Reid; 1909, O'Neill, Bollenbacher, Pardee; 1910, Sargent, Hield; 1911, Peycke, Wilds; 1912, Tomlinson, Pratt; 1913, Blatchford Franzheim, Weeks; 1914, Taylor, Baxter; 1915, King, Byrne, Wooley; 1916, Hale, Graves; 1917, Flagg, Mulliken, Woodward; 1918, Irwin, Bushee, McCausland, Goldsmith, Longley, Dawson; 1919, Sansberry Shippey, Minard; 1920, Hunt, Musnitsky, Knox, Thomas; 1921, Pollock, Molloy, Williams, Felsenthal, Clark, Farrand, Kain; 1922, Ash, Landis, Sippel; 1923, Clement, Eitel, White; 1924 Davidson, Kocks; 1925, DeFoe, Cole.

The Technology Club of Chicago, known as the Northwestern Alumni Association prior to 1919, was organized in 1887 on the initiative of Solomon Sturges, assisted by John L. Shortall and other graduates of that year. Frank Wells, '70, was elected president, and Solomon Sturges, secretary, at a meeting in the old Leland Hotel, attended by about thirty men. The organization immediately opened its doors to all former students west of the Alleghenies and north of the Ohio River, and grew rapidly, including in its membership men as far west as Seattle.

The annual dinners were big events and were attended by many out-of-town members. Ike Litchfield lived in Chicago during the early days and had much to do with making it a lively organization.

The World's Fair year, 1893, was the occasion for a particularly large banquet, at which the presidents of the Western colleges were guests. Other landmarks were the Telephone dinner, arranged by Louis A. Ferguson, '88, the first national affair of its kind; the Liquid Air dinner, and the United States Weather Bureau dinner.

The most elaborate entertainment was provided in February, 1914, for the Technology Clubs Associated, representing the entire country. A two-day celebration was staged at the Blackstone and the University Club.

The field of the organization is now Chicago and vicinity, with three hundred and forty available men and a number of non-resident members.

Weekly luncheons are held at the Engineers Club Tuesdays, at 12.30, with an annual dinner in the winter and an outing in the summer.



## WHAT THE COLLEGES ARE DOING

*(The printer, at the last moment, demands one more article. Have it he shall, if scissors can give it to him! After all, there are other schools than Technology thinking and doing not uninteresting things. — EDITOR.)*

The trustees of the California Institute of Technology have recently adopted a statement declaratory of the policies of the Institute, which will cheer all those who believe that scientific and cultural education should go hand in hand. The main points of the statement are as follows:

"The four-year undergraduate engineering courses shall include an unusually thorough training in the basic sciences of physics, chemistry, and mathematics, and a large proportion of cultural studies; the time for this being secured by eliminating some of the more specialized engineering subjects, which may be pursued in graduate courses by students desiring further professional training. It is hoped in this way to make the undergraduate courses of the Institute a combination of a fundamental scientific training with a broad cultural outlook, which will afford students with scientific interests a type of collegiate education which avoids the narrowness common with students in technical schools and the superficiality and the lack of purpose of many of those taking academic college courses. The instruction in the basic engineering subjects will, however, be maintained at the highest efficiency. . . .

"Every effort shall be made to develop the ideals, breadth of view, general culture, and physical well-being of the students of the Institute."

In answer to the question, How shall the colleges be put on a self-supporting basis? the suggestion comes from Princeton that the rich students should pay more for tuition than the poor students — even up to the limit of actual cost. The Institute of Public Service (New York) advises that every student be required to pay the cost in full, "even if he gives promissory notes to be paid off after he becomes an earner." It is reported that Goucher College (Baltimore) has accomplished this desirable end by reduction of overhead cost and has done so "without taking it out of" the faculty. The tuition charge at Goucher is \$225. The "cost of instruction" is \$226.57. (This item covers undergraduate cultural instruction only, excluding all charges for maintenance of plant and equipment, and for the technical, graduate, and professional schools.) — "*What the Colleges Are Doing*," Ginn & Company.

## IN THE PUBLIC EYE

JAMES E. BARLOW, for three years city manager of Dayton, Ohio, under that city's council manager form of government, was recently appointed city manager of New London by a unanimous vote of the city council.

Mr. Barlow is a native of Somerville, Mass., is 41 years old, married and has one daughter eight years old. After education in the public schools in Somerville he entered the Phillips-Andover Academy and then took a course in engineering at the Massachusetts Institute of Technology. He was then engaged in engineering for Boston in its water and sewer department and later did similar work in and around New York City. H. T. Waite, who became the first city manager of Dayton, prevailed upon Mr. Barlow to accompany him to Dayton to become director of public works. Mr. Barlow served in this capacity for four years and when Mr. Waite retired Mr. Barlow became city manager and served three years, retiring January 1 of this year.

CHARLES H. WOODBURY, '86, II, was recently appointed to the jury of this year's International Art Exhibition of the Carnegie Institute.

Mr. Woodbury is a painter of marines. He was born at Lynn, Mass., and was educated at the Massachusetts Institute of Technology. In Paris he studied under Bouguerau and Lefebvre at the Academie Julien.

He is president of the Boston Water Color Club, a member of the American Water Color Club and of the National Academy of Design. His paintings have been shown in no less than sixteen of the international exhibitions here, and he is represented in the permanent collection by his painting "The Cliff," purchased in 1911.

D. A. TOMLINSON, '12, the manager of the new Railways Bureau of the Portland Cement Association, is himself a railroad man. After graduating from the Institute in 1912 he was in the engineering department of the Chicago and Western Indiana Railroad for five years, where he had an unusually wide experience in railroad work. Leaving there to enter the army in 1917 as captain, Coast Artillery, he was instructor in railway artillery and orientation at the Heavy Artillery Training Camp at Fortress Monroe, Virginia. For the past two years he has been connected with the Structural Bureau of the Portland Cement Association at the Chicago office, and thus brings to his new position a knowledge of concrete and of the work and facilities of the Association, in addition to an understanding of railroad problems.

## BOOK REVIEW

### An important book for the engineering profession

WASTE IN INDUSTRY. BY THE COMMITTEE ON ELIMINATION OF WASTE IN INDUSTRY OF THE FEDERATED AMERICAN ENGINEERING SOCIETIES. Published by the Federated American Engineering Societies, Washington, D. C. McGraw-Hill Book Co., Inc., selling agents. 1921. \$4.

"Engineering," so runs a resolution of the societies responsible for this book, "is the science of controlling the forces and of utilizing the materials of nature for the benefit of man and the art of organizing and of directing human activities in connection therewith."

It would be too much to say that this book is an event: it does, however, mark an important step and possibly the beginning of a new phase in our thinking and planning about that set of problems which we group under the term "labor questions." This report deals chiefly with the most human problems of modern industry; it deals with them from the point of view of the engineer in industry; it deals with them from the point of view of the engineer who is seeking to find or, to quote, to "assay," the chief causes of waste.

Herbert Hoover, early in 1921, when president of the Federated Societies, named the committee under whose direction the report was made, and in a characteristic foreword sums up both its strength and its weakness:

"The reconnaissance report on waste in industry is the result of five months of intensive study, carefully planned and rapidly executed. A part of its value lies in the speed with which the work has been done and the promptness with which it presents definite lines for future action. It reveals facts which may serve as a foundation for an advance in American industry. It has a special message for government officials, financial, industrial and commercial leaders, labor organizations, economists, engineers and research groups, the general public and the press."

Well directed publicity through the newspapers and technical periodicals has already given a general idea of the report. The first section summarizes the detailed reports; the second presents the engineer's field reports on the building industry, men's clothing manufacturing, shoe manufacturing, printing, the metal trades, and textile manufacturing; the third offers the general reports, to wit, unemployment, strikes and lockouts, legal machinery for adjusting disputes, industrial accidents, the health of industrial workers, eye conservation, and purchasing and sales policies.

So much for the content. Throughout, with minor exceptions, the report is written with apparently genuine coldness and precision. It

details the waste in the building trades arising from trade union rules and customs — but it does not thereby and therefor damn the trade union principle. It places squarely on the shoulders of management fully half the blame for waste in industry, and on labor one-quarter — but it does not as a conclusion advocate government ownership or Sovietism. It speaks of “the industrial machine,” meaning industrialism — but it will never become a Bible for mere machinists and mechanically minded philosophers.

It punctures some popular fallacies — as, for example, that there is an overwhelming loss from strikes. The chapter on this subject was written by Carroll W. Doten, president of the American Statistical Association, who says: “Statistics, when properly interpreted, do not support the popular belief that strikes are responsible for great losses in earnings to wage earners or in the output of industry.” In another notable section the report presents the painstaking researches of Carl I. Wheat into our State boards of arbitration — a research which shows how little we have used and developed good laws, long on the statute books, in the interest of industrial peace. Experts bring together in separate chapters vast accumulations of research and experience on special phases of industrial questions. The report is valuable as a work of reference alone.

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We are in great need of the kind of information presented in the sections on the six industrial groups surveyed or assayed. The committee is thoroughly conscious of the fact that these surveys were hasty and perforce general; the committee urges further intensive study as one of the best means of carrying out its basic purpose of waste elimination. Here again it is the method, the attitude of approach, that makes the assays especially noteworthy.

Quite typical is the analysis of the building industry by Sanford Thompson. The chief causes of waste are found to be: (1) irregular employment; (2) inefficient management; (3) wasteful labor regulations; and, as secondary causes, the failure of architects to furnish check plans and specifications, duplication of labor in estimating and often in designing, and accidents. Irregular employment arises from seasonal fluctuations (throughout its entire four hundred pages the report stresses the seasonal character and factor in almost every industry), bad weather, strikes and lockouts. Inefficient management is exhibited in the failure to furnish continuity of employment; failure to plan work in sufficient detail; lack of proper schedules to allow proper coördination, purchasing, delivery, with job requirements; lack of standards and adequate cost methods as a means of checking production; high labor turnover; failure to use proper amount or type of equipment; general failure to develop and use a greater amount of mechanical equipment; waste of material through careless handling and improper plant operations. The labor wastes are traced to union regulations such as those requiring skilled men to do work which could be done by unskilled; restricting individual incentive by uniform wages; limiting the number of appren-

tices; excessive reduction of working hours; restricting output by prohibiting the use of labor-saving devices; jurisdictional regulations.

This particular report brought together information from widely scattered yet related sources: the F. W. Dodge Company, the National Safety Council, the Massachusetts Rating and Inspection Bureau, the National Council of Workmen's Compensation Insurance of New York, Government and State records, the Associated General Contractors, the National Federation of Construction Industries, the Building Trades Council of Philadelphia, builders in representative cities, and individual engineers and constructors, etc. This report occupies forty pages, amply illustrated with charts and tables. It gives the impression of diligent search and intelligent selection, arrangement, and deduction. Five years ago such a report as this would not have been written — perhaps could not.

\* \* \*

The interest of the general public in the waste report has been considerable and should be increasingly great. It is the first work undertaken by the engineering societies in rendering public service. It is the first attempt at anything like an ordered, comprehensive survey of essential problems in American industry by an interested yet disinterested professional group. Heretofore our reading in this field has been confined mainly to the writings of individuals, of government bureaus, and private and semi-public research foundations. In this report existing knowledge is reviewed, summed up, shaped for a definite, most excellent purpose. One may study this report and save himself much scattered probing. But no one who is not blindly partisan — capitalistically or socialistically — can fail to relish the spirit which attempts to disclose "losses and waste due to the restraint and dissipation of the creative power of those who work in industry." For the report truly "lays the foundation for knowledge of the destructive influences which have too much controlled in the past. From this knowledge will grow the conviction that mental and moral forces must be added in a much larger degree to the physical resources now employed if industry is to serve all who are dependent upon its continuous and effective operation." — W. L. STODDARD in *The Literary Review* and *New York Evening Post*.

## MISCELLANEOUS CLIPPINGS

### TECH'S TROUBLES

To have sustained the loss of a president by death — especially a president of the type of the late Dr. Maclaurin; then, having secured, after prolonged search, a successor in the person of Dr. Ernest Fox Nichols, only to be faced with that gentleman's resignation on account of ill health before he has even begun to serve — all this must constitute a most trying experience for the Institute of Technology.

Dr. Nichols, who nominally assumed office last June, has been continuously ill since that time and has been ordered by his physician to abandon all thought of taking up the work. How keen is the disappointment to Dr. Nichols can only be realized by remembering that Dr. Nichols was never quite happy while president of Dartmouth on account of his predisposition to pure and applied science. After an interval in commercial employ as an investigator, he was discovered and called by the great technical school across the Charles. Here, in all probability, he would have attained more nearly the ambition of his life had not fate decreed otherwise.

The Institute will now cast about for another man possessing the rare combination of qualities requisite for the presidential office. Material for a place of so great responsibility is indeed difficult to find. When the choice is at length fixed, we trust the train of misfortunes which have recently hampered Technology will be broken and remain broken for many years to come. With its splendid equipment and its remarkable financial endowment, the school stands on the threshold of the greatest era in its entire history of usefulness. It cannot advance with well ordered stride until it has a leader. — *Boston Traveler*.

### GREATLY TO BE REGRETTED

THE Massachusetts Institute of Technology, as is made evident by its executive committee, suffers a severe disappointment in the resignation of Dr. Ernest Fox Nichols, who was inducted into office only last June and who has never assumed the duties of his position. The illness that fell upon him soon after inauguration, and has not sufficiently yielded to rest and treatment, seems to make imperative this sad ending of high hopes on both sides.

If Dr. Nichols loses something in the way of the rounding out of a notable career, Technology also loses much in the services of a man who would without question have taken his place in the line of great presidents of the Institute. It is a sorrowful dispensation of fate all around.

*The Post* wishes for Technology as good a man as Dr. Nichols for its new president, and for Dr. Nichols himself a return of strength amply



adequate for the pursuits of science, in which he has had so distinguished a career. — *Boston Post*.

#### SOCIALISTIC — MAYBE

HAVING viewed the sedate career of the Massachusetts Institute of Technology with that admiration which is born of respect, and having grown into the habit of considering it as solid as science, it is with misgivings that we find that sturdy institution planning to feed its young men on free hot cocoa or hot milk, with a cracker having "plenty of vitamins."

Here is an assault on self-determination. It may even be construed as a devitalizing attack on scholastic independence. Perhaps the internal apparatus of Technology students is going to be nourished at the sacrifice of that old initiative which used to lead the college youth towards fried pies, jelly doughnuts and ice cream sodas.

From the sane mind in a sane body we are, possibly, to be shifted to a cocoa mind in a cocoa body. We tremble for the old-fashioned sturdiness of the young American stomach, which went forth seeking what it might devour, and then devoured it.

That is not the worst. We could with comparative calmness watch the devastation of one of our higher institutions of learning, or one of our institutions of higher learning; but what about the example set to humbler and more democratic educational shops? No authority has yet convinced all other authorities whether it is proper or not to give free milk and free crackers to school children; and we believe that young school children need that kind of thing more than students at such schools as Technology.

The problem of lunches for school children is much debated. The practice of taking pay from some or all of the children raises difficulties, and breeds a little bit of snobbery, which is bad. But to give free food — socialistic! Surely it is as socialistic as to give free school books, or free education. Feed the mind at public expense; but the bodies — that's different. Why is it different? We don't know.

—*Boston Traveler*.

#### THE BOSTON AMERICAN DEMURS

MAYOR PETERS tells us that the garbage contract has been approved by a professor from Technology and by Health Commissioner Woodward. That does not impress us very much.

Dr. Woodward is a fine man and a splendid Health Commissioner, and has undoubtedly given his honest opinion — from his point of view. But he probably passed upon it as a Health Officer.

We do not know the Technology professor who passed on it, nor are we impressed. Our gas and electric lighting companies and our railroads and street railway have used professors from Technology as experts in a way that was never credible to that Institution. There are some professors of the Institute of Technology whose endorsement of any plan which required the people to pay large sums of money to

private interests would make us presume that the plan ought not to be approved.

Of course, this is not a general reflection upon the Faculty of Technology. It is a great institution — one of the greatest in the world. This newspaper has always aided it as far as it could in raising funds. But what Judge Anderson said of one of its professors in the Haverhill gas case applies to several, and we should want to know who it was from Technology who passed on this garbage contract. — *Boston American*.

#### CO-OPERATIVE EDUCATION

It has remained for the Massachusetts Institute of Technology to reconcile college training with practical work in such a manner as to turn out graduates fitted to enter at once upon their life's work. By the method adopted certain students receive their ordinary degree and an advanced degree, with a regular position at graduation, and are paid while working up to this. The plan is used in the electrical engineering course. The students following it are exceptional men, and have to work hard for what they get.

This method removes the opposition to the college student in practical work. It will do away with the troubles experienced by corporations in hiring technical school graduates as accomplished in their field, only to find that they are entirely without practical knowledge and have still to obtain it, frequently at high cost to their employers. The idea is so successful that many corporations have asked for the students, but the demand is still unequal to the supply. The work with a particular corporation does not bind the student to work with it after graduation. He is as free as anyone to accept offers from other corporations or to venture out to other fields "on his own." — *Rochester Post Express*.

## NEWS OF ALUMNI ASSOCIATIONS

AKRON — THE M. I. T. CLUB OF AKRON, OHIO.—The Akron alumni are busily engaged in arranging details for the Musical Clubs concert which comes in the immediate future, this serving as a stimulant to alumni interest and has served as an excuse for rather frequent luncheons at the University Club the last few weeks. Every one is putting his energies behind this concert so that the boys will think well of Akron when they leave.

The extreme deflation of the rubber industry during the last year has decimated our ranks here in Akron.

H. P. Gray, '16, has just had an addition to the family and is quite elated. For a period during the war, Gray was special representative of the Goodyear in France.—J. H. Dunlap, '11, who is a department manager at the Goodyear, also has a new youngster and Joe goes around exhibiting pictures to every one in the shop.—William Wolfe, '12, who has been development manager of the Goodyear has recently left to go with Mr. Seiberling in the formation of the Seiberling Rubber Company. He goes in the capacity of vice-president and factory manager, having charge of the two plants, one in Barberton, Ohio, and the other at New Castle, Pa.—Karl Kilborn, '11, who has been experimental engineer of the Goodyear, has also gone with Mr. Seiberling as his development manager.—W. P. Keith, '14, who was chief chemist and head compounder of the Goodyear, has also gone with Mr. Seiberling in the same capacity.—To fill the places made vacant by these, Burgess Darrow, '11, who was head of the development department of the Goodyear Plant at Los Angeles, was recalled to Akron and placed in charge of that department.—R. P. Dinsmore, '14, was brought back with Darrow in the capacity of chief chemist.—J. E. Hale, '08, until recently in the sales department of the Goodyear, left the company a short while ago and was given charge of the development department of the Firestone Tire and Rubber Company.—Carl Hand, '17, until recently chemical engineer at the Goodyear, has left the company and set up a consulting engineering firm in conjunction with two or three associates.

Jack Tuttle, '10, recently left the Firestone Tire and Rubber Company in the effort to establish a business of his own and has been going through the preparations necessary to the establishing of a small rubber plant.

P. W. Litchfield, '96, vice-president and factory manager of the Goodyear, had the gratification of having his administration vindicated under the new financial control into which the company has passed.

The boys that are still left in Akron wish to extend their very best wishes to all ex-Akronites, whenever any alumni are in town to make it a point to drop in at the Club for lunch and inquire around,

and the chances are that several Tech men will be there.— *Malcolm C. Brock, Secretary, Goodyear Tire and Rubber Co., Akron, Ohio.*

P. S. Class secretaries kindly note this letter.

**BUFFALO — TECHNOLOGY CLUB OF BUFFALO.**— Guilty! On fifteen counts — asleep at the switch, inexcusable lethargy — and so on. Last spring Mr. A. E. Sampson, '15, was elected president and Mr. R. D. Sampson re-elected secretary. Plans were made for a brilliant season. But a better position with the Boston office of Sam's company beckoned, and our president "blew." The secretary took advantage of the general lull in business, played hooky for three months, and made a trip through the Mediterranean to Constantinople. By the way, there is no Technology Alumni Association in that neck of the woods. How come?

When we have adjusted the little matter of a new executive, we will get on our marks; get set, and endeavor to overcome our present handicap.— *Ross D. Sampson, Secretary, Lumen Bearing Company, Buffalo, N. Y.*

**CHICAGO — TECHNOLOGY CLUB OF CHICAGO.**— In the last three months the following nineteen Tech men have attended five or more of our weekly luncheons:

N. E. Baxter, '14

H. C. Blake, '06

J. M. Brown, '97

R. M. Felenthal, '27

J. M. Fitzgerald, '02

P. M. Flagg, '17

R. D. Flood, '96

J. M. Frank, '07

Lonsdale Green, '87

G. B. Jones, '05

H. W. Kern, '90

K. T. King, '15

J. W. McCausland, '18

J. O. Merrill, '19

H. M. Montgomery, '79

H. S. Pardee, '09

G. W. Pollock, '21

D. A. Tomlinson, '12

R. W. Weeks, '13

During November the attendance at the weekly luncheons averaged 25; the largest attendance we have had this year was the day when Prof. E. B. Wilson spoke to the Club when the attendance was 37. Thus far this month the attendance is a little better than in November.

We are all very busy preparing for the Musical Clubs Concert that will be held at the Blackstone Hotel, Friday evening, December 30. It will be followed by a reception and dance, and we all expect to dance until the wee small hours the same as we did as undergraduates. The resources of Morris and Co. are being marshalled by H. C. Blake to make a punch that will awaken memories of the old chapel on Boylston Street. The dance music will be furnished by the Technology Jazz Orchestra, which we understand is organized among the members of the Musical Clubs. We are looking forward to exceptionally high-class music that will take ten years off the feet of even the oldest alumnus.

Tech spirit wins again! The Musical Clubs Concert and Dance at the Blackstone on December 30 will be a big success! The loyalty and enthusiasm of 114 Tech men who have ordered 404 tickets assure its

financial success and a crowd that will fill the ballroom of the Blackstone Hotel, which has a capacity of 500. Four promotion committees headed by C. B. Page, '99, H. S. Pardee, '09, N. E. Baxter, '14 and K. T. King, '15, are actively promoting the sale of tickets.

Through some unaccountable error the name of Kenneth Lockett, '02, was omitted from the list of guarantors, which was published in the November issue. Lonsdale Green, '87, is Chairman of our Committee on Entertainment of the Musical Clubs and he is planning to give them a rousing good time while they are in Chicago. Solomon Sturges, '87, is Chairman of our Reception Committee and his genial smile is sure to add just the right touch to make the evening entirely successful and make every one enjoy himself to the utmost.—*D. A. Tomlinson, Secretary, 111 West Washington Street, Room 1537, Chicago, Ill.*

**CINCINNATI — CINCINNATI M. I. T. CLUB.**—The Tuesday luncheon at the Hotel Metropole grill room brings out about a dozen men each week. Recent visitors from out of town include: F. E. Sanborn, '89, Lloyd Wayne, '96, George Merryweather, '96, Isaac Hausman, '11, F. P. Squibb, '23.

T. H. Callahan, '14, and W. I. McNeill, '17, have located in Cincinnati. Callahan represents the Blaw Knox Co. in Southern Ohio and McNeill is with the Proctor & Gamble Co.—*F. W. Morrill, Secretary, Richmond and Harriet Streets, Cincinnati, Ohio.*

**CLEVELAND — TECHNOLOGY CLUB OF NORTHERN OHIO.**—An interesting general dinner meeting of the Club was held December 5 at the University Club with about fifty men present and local members as occupants of the speakers' table. Ralph T. Stone, '12, led off with a very interesting talk on "New Developments in Mining Methods," showing in connection some films produced jointly by the Bureau of Mines and the Sullivan Machinery Company, covering many phases of surface and underground mining practice. Max Hellman, '96, followed with an account of his recent trip abroad, touching on the business situation there, particularly in England, contrasting business methods and national characteristics and winding up with a sincere appeal for Anglo-American unity in solving present world problems. Prof. R. H. Danforth, '98, and Col. F. B. Richards, '84, were to have talked at some length on the 5-5-3 ratio and the financial deliberations of the Washington Conference, but owing to the lateness of the hour postponed expressing the bulk of their thoughts on those subjects until some later meeting.

During the evening the Club voted in favor of having the Tech Musical Clubs stop off at Cleveland on their Western trip during the holidays. Donald O. Dunn, '16, fathered the project and was made chairman of the committee on arrangements.

The Clubs arrived Wednesday, December 28, and their concert that evening reflected greatest credit on every one concerned. The ballroom at the University was crowded to capacity with Tech men

and their friends as well as with many socially prominent people of the city who showed greatest interest in the project from the first. In fact, it was something of an eye opener to our perhaps over-modest membership to see the extent to which the latent prestige of Technology in this part of the country brought out the support of people with other college affiliations. Dancing lasted till one in the morning and the event scored as one of the leading local events of the holidays. Following is a list of patrons and patronesses:

Colonel and Mrs. F. B. Richards, '84  
Mr. and Mrs. George E. Merryweather, '96  
Mr. and Mrs. Frank B. Meade, '88  
Mr. and Mrs. Edward R. Motch, '97  
Mr. and Mrs. Frederick Metcalf, '90  
Mr. and Mrs. John G. Oliver  
Mr. and Mrs. John E. Kreps, '87  
Mr. and Mrs. F. R. Walker, '00  
Mr. and Mrs. Robert E. Wallace, '98  
Mr. and Mrs. Charles E. Stamp, '96  
Mr. and Mrs. Tyler W. Carlisle, '10  
Mr. and Mrs. Donald Omar Dunn, '16  
Mr. and Mrs. Charles F. Brush, Jr., '17  
Mr. and Mrs. Walter R. McCormack, '03  
Mr. and Mrs. F. W. Smith, '01  
Mr. George Hunt Ingraham, '92  
Mr. and Mrs. Stanley Motch, '99  
Mr. and Mrs. Max Hellman, '96  
Mr. and Mrs. Philip Withington, '95  
Mr. and Mrs. George Bartol, '77  
Mr. and Mrs. Rollin Henry White  
Mr. and Mrs. Howard Irwin Justis  
Mr. and Mrs. Munsen Havens  
Mr. and Mrs. Albert D. Hatfield, '96  
Mr. and Mrs. Arnold Saunders, Jr.  
Mr. Harvey H. Brown, Jr., '17  
Mr. and Mrs. Gardner Murfey, '07  
Mr. and Mrs. Armen H. Tashjian, '07  
Mr. and Mrs. George A. Armington, '87  
Mr. and Mrs. C. B. Rowley, '12  
Mr. and Mrs. H. E. Weeks, '93  
Mr. and Mrs. Philip L. Small, '15  
Mr. and Mrs. Frank A. Smythe, '89  
Mr. and Mrs. John M. Gundry  
Mrs. A. F. Horner  
Mr. and Mrs. Carrol W. Brown, '99  
Mrs. Arthur Bradley  
Mr. and Mrs. Walter H. Sutliff, '99  
Mr. and Mrs. James W. Stewart  
Mr. and Mrs. W. L. Clements, '21



Mrs. John M. Mulrooney  
 Mr. and Mrs. Ralph Geckler  
 Mr. and Mrs. Charles Van Merrick, '00  
 Mr. and Mrs. Louis Meyers

## COMMITTEE

Donald Omar Dunn, '16, *Chairman*  
 Philip Cristal, '17  
 A. Ilsley Bradley, '22

Alumni transient in Cleveland are invited to make note of the fact that the Friday noon informal luncheons formerly held in the Statler are now shifted to better quarters in the Engineering Society rooms on the mezzanine floor of the Hotel Winton. Every Friday 12.30 p.m.

Members of the local Club as well as every one who knew him will feel the loss of James Duane Ireland, '02, who passed away recently at his home in Cleveland after a long illness. A further obituary notice will be published in the next issue of the REVIEW.—A. A. Gould, *Secretary, University Club, 3813 Euclid Avenue, Cleveland, Ohio.*

DETROIT — DETROIT TECHNOLOGY ASSOCIATION.—All Tech men in Detroit and vicinity, as well as those passing through, are invited to attend the noon luncheon at The Board of Commerce the first Thursday of each month at 12.30. We have secured William R. Kales, '92, to speak to those present at the January luncheon.—O. M. Davis, *Secretary, 800 25th Street, Detroit, Mich.*

FALL RIVER — TECHNOLOGY ASSOCIATION OF FALL RIVER.—Our local Association has not had a meeting this year as yet; in fact our last get-together was at a dinner in the spring a year ago. At that time we proposed a University Club for the city of Fall River in order to promote a more intimate relationship between the college men of the city. The idea met with very favorable response from the college clubs and other university men not organized.

Through the combined efforts of the Yale, Harvard, Holy Cross, Brown, Williams and Technology Clubs the University Club of Fall River was born January twenty-ninth at a dinner given at the Quequechan Club. There were about one hundred and twenty-five present, graduates and otherwise from eighteen colleges and universities. Considerable enthusiasm was displayed and not a little rivalry in the singing of college songs. The club had as guests the famous "Mac" Aldrich of Yale and Doctor Nichols of Harvard.

At a dinner of college students from Fall River held during the Christmas holidays Technology had the largest number present and a canvass of the city showed there are more men attending the State from Fall River than attend any other educational institution.—L. L. McGrady, *Secretary, 123 Beverly Street, Fall River, Mass.*

HARTFORD — TECHNOLOGY CLUB OF HARTFORD.—The Technology Club of Hartford began its regular Thursday lunches at the new Bond

Hotel in Hartford the second Thursday in November. As is customary, a speaker on some important subject was invited in to lunch with the Tech men and later discuss his subject. The first speaker this season was Mr. F. D. Knight, the resident Stone & Webster engineer, who is in charge of the construction of the new generating station of the Hartford Electric Light Co. in the South Meadows. This plant is one of the latest to be designed and represents the last word in central station practice. Mr. Knight explained the main elements of the new station and gave a very interesting account of the development of the project from the engineering standpoint. Most of our Technology men are connected with engineering in some manner and the apparently radical departures from accepted practice were very completely discussed. Later the Club were invited down to inspect the plant, and some thirty members accepted the opportunity and went over the entire station. Guides were supplied by the Electric Light Co. and the Technology men were divided up into squads, and were shown every detail of the wonderful construction. The condensing water pumped through the station from the Connecticut River exceeds in quantity the amount used by the entire city of Hartford. The station is built in the flood area, and in the annual spring freshets in the river the lower floor will be some eleven feet below the level of water in the river. Another striking feature is the erection of two massive brick smokestacks upon the third story of the station. It is customary to seek the solid foundation of old Mother Earth when erecting lofty stacks, but in this case two immense stacks are built upon the third floor. This inspection of the newest and finest generating station in Connecticut is another example of the progressive spirit of the Technology Club of Hartford, who manage to always have the first look at every big thing that comes to the city.

A very interesting program of speakers has been provided for the rest of the season and the Hartford Club promises to make this still more of a success than its previous seasons. The Tech spirit and good fellowship have become the equal of that of any college in the land.—*George W. Baker, Secretary, Box 983, Hartford, Conn.*

NEW HAVEN—NEW HAVEN COUNTY TECHNOLOGY CLUB.—Dr. H. P. Talbot, Acting Dean, addressed the New Haven County Technology Club at its winter dinner on Tuesday evening, December 20, held at the New Haven Lawn Club. Dr. Talbot's talk was especially interesting and newsy regarding the happenings at the Institute, and also some of its problems. He spoke particularly of the importance of suitable graduate school facilities where its work could be carried on without interference with the regular undergraduate studies, and emphasized the ever growing need of dormitories. He did not fail to mention the development of the Industrial Research under Professor Norton, or the deeply felt loss of Professor Cross and others during the current year. The New Haven County Technology Club recommends to all local Alumni organizations that they secure the doctor for a good, newsy chat at their next meeting.

Prof. C. E. A. Winslow, '97, now head of the Yale Department of Public Health, who has only recently returned from Geneva, also spoke informally about the League of Nations, particularly its Secretariat, with whom he had become quite well acquainted. This is the first body of men to convene who are paid to think internationally, and Professor Winslow feels that the work already done by the League has been worth while regardless of the outcome of the Disarmament Conference.

Thirty-eight Tech men were present:

Prof. H. P. Talbot	W. H. Whitcomb	Vincent G. Maconi
Kenneth Cartwright	J. S. Gravely	Floyd J. Pitcher
Wesley T. Jones	Herbert F. Jermain	John Putnam
R. H. Rich	Arthur C. Jewett	Herbert G. Shaw
Dean F. Willey	John M. Martinez	George O. Schneller
Stuart M. Boyd	Roy L. Parsell	Scott H. Wells
Charles R. Haynes	Edgar W. Taft	John C. Bradley
Robert J. King	H. M. Wilcox	A. L. Davis
Herbert R. Polleys	Philip G. Laurson	E. H. Davis
C. J. Randall	Prof. C. E. A. Winslow	Carl P. Northrup
Burr A. Robinson	Henry Dowst	F. G. Purington
Eugene W. Rutherford	Chester Dunlap	J. R. Putnam
R. R. Taylor	H. Gfroerer	

Through the efforts of the Luncheon Committee, Vincent Maconi, '15, chairman, Herbert Gfroerer, '17, and Scott Wells, '19, the regular monthly luncheons are being well attended. Some interesting current topic of the day is always ably discussed for a brief period. Every month, the third Tuesday at Hotel Bishop, twelve o'clock, seventy-five cents. — *Roy L. Parsell, Secretary, 235 Park Street, New Haven, Conn.*

NEW YORK — THE TECHNOLOGY CLUB. — The Technology Club of New York elected the following officers last May: President, T. D. A. Brophy, '16; vice-presidents, G. C. Gibbs, '00, F. C. Schnitz, '95, C. E. Lawrence, '96, R. M. Whitcomb, '05; treasurer, F. E. Ross, '86; secretary, E. P. Brooks, '17, and nine governors. Certain changes have been made in the Clubhouse which should make it much more attractive to members. A new billiard room has been fitted up in the basement. The restaurant was reopened early in December. It is the policy of the Club to keep at least twenty-five per cent of its rooms open to transients and it is earnestly hoped that men passing through New York will make a special point of stopping at the Technology Club.

E. P. Brooks, '17, has resigned his position as secretary to take the chairmanship of the entertainment committee and, among other things, he has organized a series of round-table dinner talks to take place every Monday evening throughout the winter at the Clubhouse, at which men in the public eye will inform the inquisitive engineer of what is going on in the world.

At the first smoker of the season Mr. Ernest M. Halliday talked on the subject: "Has the War changed the duties of Citizenship?"

His personality was so magnetic that even his allusions to the Volstead Law were well received by the members present. On December 12 there was an Architects' Dinner at which W. W. Bosworth, '89, presided and at which Prof. William Emerson, head of the Department of Architecture, as the guest of honor, outlined the work of his department and his aims for the future. Upon his departure most of the architects present were overheard to express a wish that they could go back to Tech and take Course IV over again. He received the unanimous and hearty approval of those present for the splendid work he is doing.

It is hoped to have at the Technology Club this winter not only a series of Class dinners but also a series of Course dinners following the initiative set by Course IV.

Among the new members for the year, 1921, it is a pleasure to note 172 men of the Class of 1921. — *R. H. Scannell, '17, Secretary, 17 Gramercy Park, New York, N. Y.*

PHILADELPHIA—TECHNOLOGY CLUB OF PHILADELPHIA. —On November 2, 1921, the Technology Club of Philadelphia held a second meeting of this year. Major J. S. Stuart Richardson, city editor of the *Public Ledger*, spoke on his military intelligence experiences during the war. We had out to dinner about thirty-three people and over fifty for the meeting. Major Richardson was extremely interesting and carried his audience so that when he got through they were wishing he would still go on.

On November 10, the Technology Club joined hands with the Military Engineers of Philadelphia and went on a trip to League Island Navy Yard. This trip was preceded by a luncheon at the City Club. Our numbers were small, but the party made up for this in the interest displayed, and everybody thoroughly enjoyed it. Lieut. Comdr. E. M. Pace, Jr., '17, arranged for this trip and carried it out.

On Wednesday, December 7, we had one of our best meetings of the year. Dr. Frank Aydelotte, president of Swarthmore College, spoke on the "Liberal Side of the Institute Curriculum." Dr. Aydelotte was formerly a professor of English at Tech and consequently was well able to give an expert opinion on this subject. When Dr. Aydelotte had finished his Institute talk, he followed it with a talk regarding the Rhodes Scholarship and how a man might improve himself after he had left Tech. Dr. Aydelotte's views were extremely interesting and helpful.

The Technology Club will substitute this year for their February meeting a social affair for the wives of the members. There will probably be a small dance and the matter is now being considered.

This year we are trying to have the Club more of a social club than anything else, and the members are taking quite a lot of interest in Kelly Pool on our meeting nights. Our next meeting will be on January 4, and the speaker will be announced later. Every Tech man in the vicinity of Philadelphia is urged to come to our meetings, and if you are not getting notices, please notify the secretary, so that he may put your name on the mailing list.

Every Thursday on the Thirteenth Street side of Wanamaker's Tea Room, we are having luncheon at 12.30 p.m. — *Dexter A. Tutein, Secretary, 1607 Real Estate Trust Building, Philadelphia, Pa.*

SAN FRANCISCO — TECHNOLOGY ASSOCIATION OF NORTHERN CALIFORNIA. — At the last monthly luncheon, J. E. Woodbridge, '93, was elected president of the Association and P. R. Parker, '03, was also regularly elected as secretary. We have our regular monthly luncheons every fourth Tuesday at the Engineers' Club. — *P. R. Parker, Secretary, 507 Montgomery Street, San Francisco, Calif.*

SYRACUSE — M. I. T. CLUB OF CENTRAL NEW YORK. — At a recent meeting of the M. I. T. Club of Central New York, held on Tuesday evening, January 10, the matter of an Alumni Director was considered and it was the unanimous sentiment of the men that an Alumni Director would be a very excellent thing. What was not clear in our minds is the matter of financing. To this end our club is willing to do our share in the financing of such a move. Mr. Theodore H. Skinner, our representative on the council, will possibly have something more to say at the next meeting of the council.

This will also advise in regard to the election of officers of our club which resulted as follows: President, W. A. Swain, '20; vice-president, R. P. Burnett, '10; secretary and treasurer, Charles W. Nitschke, '11; executive committee, J. S. Barnes, '08, M. B. Littlefield, '21; alumni representative, T. H. Skinner, '92. — *J. S. Barnes, Retiring Secretary, 174 Cambridge Street, Syracuse, N. Y.*

## NEWS FROM THE CLASSES

1868

ROBERT H. RICHARDS, *Secretary*, 32 Elliot Street, Jamaica Plain, Mass.

The following letters were received from two of our classmates:

"My dear Bob: I don't know where this will find you, at home or in the South. I should like to meet the old chaps at the Alumni dinner, but a Saturday night dinner is about impossible for me, and I don't expect to get there.

We are having a real winter and some of it has been very destructive of our trees; however, I believe they will recover much more than most people think. Winter and I do not agree very well, *i. e.*, New England winter. I cannot go to California as pleasantly now my brother is gone, but am hoping to get a little change somewhere south before spring. I hope you are still enterprising as to travelling. It is a great way to keep bright and active. Just now it is a very expensive amusement.

I am still president of the Clinton Savings Bank, which takes a little of my time and attention and is the only regular business I have except to act as secretary of the hospital (a small job). Sorry to write about myself, but I haven't seen or heard of any one else.

With best wishes for the new year for you and yours.

Yours affectionately,

Eli Forbes."

"My dear Mr. Richards — or perhaps I should say Mr. Secretary: Upon receiving the last number of the REVIEW I suddenly awoke to the fact that I had not notified you of my change of address, and I hasten to make amends. For about four years after leaving the Public Service Commission, I acted as consulting engineer for this company with my office here, while living in Springfield and going back and forth daily. Last year our engineer of maintenance of way resigned and I was asked to assume the duties in addition to my own — my title being changed to that of chief engineer. This necessitated my removal to Pittsfield. So I am unexpectedly back in active harness again, and you may be sure that I am as busy as I ever have been in my life.

Our road extends into four different states and I am upon the line the larger part of the time, which necessitates much travel. However I am used to that. For the past forty years I have travelled one hundred and thirty-four miles per day on an average, with the exception of Sundays and holidays, and travel has become second nature to me.

I am truly thankful that I still have the health and strength necessary for my work, and I still find enjoyment in life, even though I have suffered a grievous loss in the death of my wife.

I hope that you and your good wife are well and prospering.

Most truly yours,

D. M. Wheeler."

1874

CHARLES F. REED, *Secretary*, Old State House, Boston, Mass.

Holbrook writes from California: "I have spent most of my time for twelve years on 'valuation' work, so called or miscalled. When a hundred million dollars have been spent for valuation we are likely to get what most political issues come to — something of little use, or obsolete or superseded already. It will lay for all time the claim of LaFollett and others — that there are eight or nine billion dollars of water in the capital of the United States railroads. In fact it will show that the amounts given in the books of the carriers as 'cost of road and appurtenances' are seldom more than the actual cost, and in some strong roads much less. But after all what they find cuts little figure. Value will still remain a matter of opinion and there will always be a conflict of opinion. A value for regulation is impossible because the value depends on the regulation. It can only be made afterwards, so to say, and then the units of value will have changed. This universe is a



continual becoming. Everything changes and nothing, perhaps, changes more than change. What we try to grasp and hold eludes us. What we hold we are continually seeing is not what we thought it was and so we discard it for something else which in turn follows the same road. This is the world process, the A. U. M. For many years the service required from the railroads of this country doubled every fifteen or twenty years. Government regulation has without doubt retarded railroad development, and in the last five years it has come to a standstill. Are we to have railroads as required, or are we to let them go, after the World War, the way we let the merchant marine go after the Civil War? If we are to have railroads, then either the Government must so conduct its regulations that the necessary private capital will be forthcoming, or the Government itself must provide the capital. Investors will use their own judgment, not the Government's. Unless there is a change, we will be up against a worse situation when next this country needs its maximum railroad service than we were at the opening of the late war."

A letter from Emerson, in Honolulu, says: "Though I have passed my seventy-eighth birthday I am usually taken for a man of about sixty-five and seem to myself that young. My wife and I take a deep interest in all the great things that are taking place in the world and in this mid-ocean section of it in which our lot is cast. We seem to be in the midst of one of the greatest crises in our history, and this is not only true of the United States in general as you well know, but of our insular portion of it as well. Our labor troubles here threaten the very existence of the two great industries on which our civilization depends, *viz.*, sugar and pineapples. Shall we allow a foreign race, who vastly outnumber us, to dominate our industries and reduce some of them to bankruptcy? Personally I continue to take long mountain tramps in search of the beautiful land shells for which this island is so famous and of which I have an extensive collection. Next to my son, who is a senior at Harvard College, my shells form the greatest interest of my daily life."

Chase was elected president of the New England Historic-Genealogical Society at its last annual meeting.

The Class luncheon, which occurred at the City Club on December 1, was attended by Messrs. Brown, Chase, Elliot, Mansfield, Nickerson, Read and Russ.

We regret to announce the death on December 26, of Henry Simonds, who affiliated partly with '74 and partly with '75.

Mudge was recently the recipient of marked attention in Chicago. *The Chicago Journal* of December 23, 1921, published his picture and stated that he "was honored at a luncheon at the Union League by associates from other railroads, in recognition of his thirty-seven years' service as advertising agent of the Illinois Central and Burlington Railroads. During the course of the luncheon he was presented with a gold watch. His retirement takes effect January 1.

The presentation was made by W. H. Simpson of the Santa Fe Railroad.

Others present included C. R. Custer of the North Western, T. T. Maxey of the Burlington, A. L. Eidemiller of the Chicago, Milwaukee & St. Paul, A. A. Peterson of the Chicago, Great Western, H. H. Ellis of the Rock Island, R. B. Gray of the Illinois Central, J. V. Lanigan of the Illinois Central, C. H. Kilbourn of the Michigan Central, E. A. Abbott of Poole Brothers, P. Robertson of Rand, McNally & Co., and H. E. Remington of the Remington Advertising Agency."

Nickerson has again been honored at the Convention of the Gillette Co. *The Boston Herald* of January 10, 1922, prints his picture and says, "At yesterday's session particular tribute was paid to William E. Nickerson, a director of the company, who invented all of the special machinery which made possible the production of Gillette razors and blades. The ability of the sales department to increase the distribution of Gillette razors and blades each year has made necessary a large amount of special automatic machinery to enable the manufacturing department to keep step with the volume of sales, and to Mr. Nickerson's inventive genius is due the credit for this equipment."

1877

RICHARD A. HALE, *Secretary*, Essex Company, Lawrence, Mass.

Robert D. Andrews, '77, was the guest at the Alumni Council meeting on December 19 at the Walker Memorial. He presented a drawing and model of a Memorial Arch designed to be built in connection with a new Harvard Bridge, in the future. The memorial seemed most appropriate and was most favorably received by those present at the meeting. The form of memorial has not been finally adopted by the State but will probably be discussed at the present session of the Massachusetts Legislature in connection with other forms of memorials. The drawing and model give an excellent idea of the appearance of the arch and give a dignity and setting to the bridge that is very artistic.

Cowdery, '77, has resigned from the People's Gas Light Company of Chicago, but has a general office at 1620 People's Gas Building, Chicago. He is interested in gas properties in various parts of the country.

F. W. Brown, '77, is taking a Southern trip to avoid the cool breezes of the northern winters.

1878

EDMUND P. COLLIER, *Secretary*, 256 Summer Street, Boston.

The annual dinner of the Class was held at the University Club, 270 Beacon Street, Boston, Saturday evening, November 26. There were present Allbright, Bacon, Bradford, Collier, Dan, Higgins, Rackemann, Robertson, Rollins, Sargent, Schwamb and Williams. The dinner was made the occasion of a greeting to Takuma Dan, of Tokio, Japan. Dan came to America, leading a mission of influential business men of Japan, representing leading firms, corporations and all phases of commercial and industrial activities in Japan, for the purpose of meeting leading business men, with the expectation of exchanging views upon financial, economic and industrial subjects, with the idea that the smooth working of international business relations depends upon thorough understanding with one another. The evening was passed very pleasantly and the Class obtained from Dan a very illuminating exposition of past and present affairs in Japan.

Dan is general managing director of the combined Mitsui interests, comprising Mitsui & Co. (importing, exporting and shipping), Mitsui Mining Co. and the Mitsui Bank. He is president of the Hokkaido Colliery and Steamship Co. and of the Japan Steel Works, director of the Shibaura Engineering Works and special member of the Tokio Chamber of Commerce.

At the banquet given at the Copley Plaza by the Japanese Business Men's Mission to America, the Class of '78 had a special table, at which were seated all those present at the Class dinner, with the exception of Allbright, Higgins and Sargent, and with the addition of Henshaw.

The fact that Allbright came on from Chicago to be present at the Class dinner and to greet his classmate from Japan is an indication of the Class spirit among the members of the Class of '78.

1881

F. H. BRIGGS, *Secretary*, Hotel Puritan, Boston, Mass.

James S. Rogers died June 8, 1921. He studied architecture with H. H. Richardson for six years in Brookline, and also represented him in Detroit. He was a practicing architect for twenty-five years in Detroit, and retired in 1919. He spent most of his time since then farming and resting at Adamstown, Maryland. He was married in 1895. He was a member of the Corinthian Lodge, A. F. and A. M. and of several athletic clubs, etc. His age at the time of his death was about sixty-two years.

1884

H. W. TYLER, *Secretary*, M. I. T., Cambridge, Mass.

Newell writes that he and his family are back at 829 Phelps Place, Washington, but that his older daughter is bringing up a fine young son in Idaho. He adds: "In consulting work I have been fairly busy. During August and September I was in Montana and Alberta on the division of waters of St. Mary and Milk Rivers between the United States and Canada. Much time has been given to the affairs of the American Association of Engineers, which seems to be weathering excellently well the storms which have beset all engineering organizations.

My chief interest at present is in helping in the development of a national policy of reclamation of all waste lands and in creating, where practicable, opportunities for small self-supporting farm homes in all parts of the United States. In this the success of the Reclamation Service in the arid regions affords a most valuable example of what may be done elsewhere.

The message of President Harding to Congress on December 6 has greatly stimulated interest in this movement among public men. The Chamber of Commerce of the United States has designated a Committee on Waste Lands, of which I am a member, and to which I expect to give much time this winter."

Members of the Class will learn with sympathy and regret the death of Mrs. F. L. Bardwell, December 30, in Minneapolis, where Mr. Bardwell is now living with his son.

1888

WILLIAM G. SNOW, *Secretary*, 112 Water Street, Boston, Mass.

Thompson was a member of the Hoover Committee on Elimination of Waste. He prepared, with assistance of The Thompson & Lichtner Co. organization, essays on "The Building Industry" and "The Boot and Shoe Industry" recently published in the volume "Elimination of Waste in Industry." He was a member of the President's Conference on Unemployment, serving as a member of the Economic Advisory Board, the Manufacturers' Committee, and the Construction Committee, also was Chairman of the Board of Arbitration in Rochester, N. Y., shoe wage case.

Buttolph writes that owing to the illness of one of their officers he has been in the main office of the company, The Manufacturers Mutual Fire Insurance Co. at Providence, until October; since then has been traveling in connection with his business through Ontario, Quebec, and northern New York.

Ellis is reported to be engaged on some important contracts in the South.

Holmes, president of the Waterbury Trust Co., states that his son, Frederick Taylor Holmes, entered Yale this fall expecting to take the academic course. Holmes is a director of the Mattatuck Historical Society and its treasurer since 1902. At the spring meeting he addressed the Society on the Einstein theory of Relativity. The notice of the meeting stated: "Deploring the wide publicity given to the difficulty of comprehending the progressive mathematical steps employed by Doctor Einstein, Mr. Holmes believes that the special theory of relativity can be easily made clear to very many people, especially when a blackboard is used in illustrating the development of Dr. Einstein's idea."

Stephen Child spent the summer in Europe. He is interested in an International Association to Aid in the Development of Towns and Cities, their construction and administration. The present headquarters of the Society is in Brussels. Child has written a paper entitled "An International Clearing House of Civic Information." This paper states that "During the first International Congress of Cities held in Ghent in 1913 there was formed an organization known as Union Internationale des Villes (International Union of Cities). The name, however, does not fully express its function, for it is the main purpose of this organization to collect and study *contemporaneous documentary information* of all kinds relating to civic affairs, to supplement this research work by the preparation of briefs or short reviews and to promptly distribute these results throughout the world. This work, therefore, is of very evident social interest, for social progress elaborates itself and becomes realized in large part through the influence of cities. . . . The project was necessarily laid aside during the Great War, but in 1920 at Brussels



TAKUMA DAN

On graduation from the Institute, 1878

was taken up again and is now making rapid progress toward the accomplishment of its aims. . . . Specialists, experts and savants, who by their functions, duties or studies are interested in any of the many branches of civic endeavor also civic organizations or societies are permitted to join the central organization directly, paying a nominal fee depending upon conditions and agreeing also to contribute documentary data, particularly, of course, in regard to their own work." Child is a fellow, American Society of Landscape Architects, member of American Society of Civil Engineers, member of American Society of City Planning Institute, member of Town Planning Institute of Great Britain.

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1889

WALTER H. KILHAM, *Secretary*, 9 Park Street, Boston, Mass.

The death of "Jerry" Ayer which occurred on December 4 comes as a shock to many of us who knew him intimately. The following article from the *Burlington Free Press* shows the really affectionate hold which he had on some Vermonters and will express the regard in which he was held by the members of '89:

"Arthur Whittier Ayer, from 1891 to 1902 professor of mechanical engineering in the University of Vermont, died suddenly at his home in La Grange, Ill., on Sunday, December 4. He had been in rather poor health for some time, but his death was utterly unexpected and will be a shock to many Burlingtonians who knew him twenty years ago. The body will be buried tomorrow at Mount Auburn Cemetery, Cambridge, Mass. Professor Ayer was fifty-four years of age. He was born in or near Boston, attended the public schools and was graduated at the Massachusetts Institute of Technology in 1890. His connection with the University of Vermont was formed a year later. Prior to his coming, little or nothing had been done along mechanical engineering lines in what was then known as the engineering department. He developed this phase of its work most successfully. When in 1902 he left the University to engage in commercial operations, he bequeathed to his successor a well equipped department and a well rounded curriculum. Furthermore, his interest in the institution did not wane after his withdrawal, but was repeatedly manifested. The many students who profited by his thorough knowledge and by his effective method of presenting his specialty will not cease to remember him. During the past twenty years Professor Ayer has been engaged in commercial work, first as superintendent of the vast Philadelphia plant of Harrison Brothers, and later as founder and proprietor of the Midland Chemical Company of Chicago, which manufactured certain paint specialties. Professor Ayer's outstanding traits which won him a host of friends were his simple directness of character, his large capacity for genuine friendship and his quiet forcefulness. His was the simplicity of true greatness. His heart was always in the highlands. His love for the mountains and lakes of the first State of his adoption never faltered. He maintained the summer home he established twenty-five years ago at Lake Caspian at Greensboro. Of it he constantly dreamed, to it, whenever his busy life would permit, he gladly turned. Professor Ayer was married about the time he first came to Burlington to Miss Georgie North of Brookline, Mass., who with two daughters, Mrs. Samuel Milnes of Lexington, Va., and Mrs. Sherwood Smith of La Grange, Ill., survives him."

"Juddy" Wales' first exhibition of marine etchings has just been held at the Goodspeed Gallery in Boston and drew forth most enthusiastic comments of art critics of Boston papers as well as from his friends. In fact three weeks after the exhibition was closed the art critic of the *Transcript* again referred to the exhibition as a "phenomenal success," and a great many of the marine picture collectors of Boston competed to secure early impressions. Juddy has an inimitable manner of depicting a ship in the water and has a way of expressing the weight of the hull, the power of the sails and the movement of the waves so that one almost hears the whistle of wind through the rigging, while looking at the picture.

1890

GEORGE L. GILMORE, *Secretary*, Lexington, Mass.

Charles Hayden, our Class president, is a director of fifty-six corporations, banks and railroads.

A letter was received from Frank Hayes at Superior, Wisconsin, in October. Frank writes that, after traveling steadily for twenty-five years between the house and office, he went on the rocks, nervously, and after a second attack that lasted two years, he sold out his business a year ago last July. As a result, he advises that his principal concern now is to wake up in the morning in time for breakfast, and judging from the comments of his friends he is dropping a year at every birthday instead of putting on one. Last year, with Mrs. Hayes, he drove in his machine to Florida, leaving on October 28 and did not arrive home until May 27. In his letter he stated that he was starting the following week for a trip to Texas, with his wife and daughter, and if the roads and other conditions seemed propitious, he would continue on to the Pacific Coast, returning later by a northern route in the spring. His son graduated last June from the mechanical course at Wisconsin University. He reports that his boy spent the summer studying labor and economic conditions in England, and then received an opportunity to go to Poland in Student Relief Work, and is now at Warsaw in charge of some part of that work. He received his commission as aviator during the war.

Cabot J. Morse, who was with us in our freshman year, tied for the best score with an '85, at George Wright's Old Boys' Golf Tournament at Wollaston, October 13. Cabot is evidently playing better golf than when he tackled your secretary a few years ago.

Pierre S. du Pont had a most interesting article in the October issue of the *Nation's Business*, entitled "War Doesn't Pay."

Word was received the first of October, announcing that Harry A. Kennicott of our Class was married to Miss Ella Davis, at Excelsior Springs, Mo. Harry ran a farm for many years in that vicinity, but a few years ago retired and came into the city to live. For some time he has been a deputy in the office of the county treasurer. He is highly esteemed, and is receiving the congratulations of a host of friends on this occasion. Let us hope that Harry will bring his bride to our next Class reunion.

James A. Carney's present address is 75 South Root Street, Aurora, Ill.

Under date of December 13, through the Interstate Commerce Commission, Charles Hayden was given permission to remain as a director of the Pere Marquette, and several other corporations.

It was rather a coincidence to Tech, the first week in December, when Dr. S. A. Moss, '90, and Dr. W. Z. Ripley, '90, both delivered addresses.

#### "HEAR RIPLEY OUTLINE RAILROAD REORGANIZATION"

Last night in the north hall of Walker Memorial, Corporation XV, at its first smoker of the year, heard Prof. William Z. Ripley, '90, noted railroad economist, outline the plan for the consolidation and reorganization of the railroads in the United States that he prepared for the Interstate Commerce Commission. Professor Ripley's plan for the consolidation of the railroads was the one he developed for the Interstate Commerce Commission. It provides in the main that large and prosperous railroad lines be combined with smaller and less fortunate ones in such a manner as to make for the greatest possible efficiency in their operation. Professor Ripley told of the difficulties that he had encountered in working out a plan that would please all the railroads concerned. He said that the plan had aroused quite a little criticism since it had been made public. This reorganization is not government ownership, and efficiency is kept up by providing competition between lines at all important rail centers. R. H. Brown, '22, president of the Corporation, presided at the smoker, and, on behalf of the members, presented Professor Ripley with a share of stock in Corporation XV, making him an honorary stockholder. A considerable number of men joined the corporation at this meeting."

#### "DR. MOSS SPEAKS AT 'AERO NIGHT'"

The statement that 'the ordinary pursuit plane is helpless before a supercharged plane and . . . that hence all airplanes in war will have to carry superchargers,' may be taken as an index of the importance that may be attached to the development of the supercharger, which was described by its inventor, Dr. S. A. Moss, '90, before an open



meeting of the Aero Engineering Society last night. The purpose of the supercharger is to permit the airplane engine to run under conditions that are prevalent at sea-level. This is accomplished by compressing the air fed to the carburetor. The supercharger is operated by the gases exhausted from the motor. The supercharger increases the ceiling of a plane and likewise its speed and manœuvrability at high altitudes. Dr. Moss explained the construction of the supercharger, illustrating his lecture with lantern slides and moving pictures. Pictures of the record-breaking flights by Schroeder and by Macready, the latter reaching the altitude of 40,800 feet, were shown."

Arthur Whitter Ayer, who graduated with the Class of '90 but was affiliated socially with the Class of '89, died at La Grange, Ill., on December 4, 1921.

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#### 1891

HENRY A. FISKE, *Secretary*, 275 West Exchange Street, Providence, R. I.

The design for the new traffic towers for Fifth Avenue, New York City, submitted by Joseph H. Friedlander, has been accepted in competition with a large number of other designs and Mr. Friedlander is to be retained by the Fifth Avenue Association to prepare work and drawings and supervise construction of the towers. The following is quoted from a New York paper:

"The towers are to be constructed almost entirely of bronze, with a granite base four feet square and three feet high. They will be twenty-three feet high. The base is to have granite 'striking blocks' at each corner to fend off traffic and to protect the tower itself. The lower part of the structure will be open so as to allow an unobstructed view up and down the avenue. [The space at the top which is to house the traffic policeman will be enclosed in glass windows, so operated as to allow the policeman in the tower to open or close all of them at one time with a single swing of a lever. The tower will be heated by an electric stove. Mr. Friedlander, the winning architect, became internationally known a few years ago when he won the competition for the monument in honor of Perry's victory on Lake Erie, which is now in course of construction. He was made a Chevalier of the Legion of Honor by the French Government in recognition of his architectural skill and for his work in furthering the French style of architecture in this country."

Walter E. Hopton writes that he has gone into business for himself under the name of "The Hopton Company," purchasing engineers and manufacturing agents, with the main office in the White Memorial Building, Syracuse. He is district agent for a number of manufacturing concerns and in his letter states: "Our aim is broader than that of a strict manufacturers' agent to the effect that we will take charge of the purchasing and installing of a plant or additions to plants, and we hope to make arrangements to do the purchasing for small concerns who have no regular organization to that effect."

"Charlie" Aiken has moved his plant from Brooklyn to Hawthorne, N. J. The following is quoted from the *Soap Gazette and Perfumer*: "On January 1, 1908, the firm of Houchin-Aiken Company, Inc., took over the business of Houchin & Huber, manufacturers of soap machinery, continuing the business in the same plant where it had been for years, adding to it many lines, including services as consulting engineers. As the business enlarged, new equipment was added and new buildings put up, until finally further enlargement on the old site was impossible. To overcome this, after extended search the company purchased, in 1920, a plant located in Hawthorne, N. J., which, with some changes, is admirably adapted to their needs. Part of the new plant was started in operation in February, 1921. The complete manufacturing plant, with the exception of the die shop, has now been transferred to Hawthorne. For the present the sales office, engineering department and die department will remain at the old plant. Mr. Aiken, who, with Mr. Houchin, incorporated Houchin-Aiken Company in 1908, and took over the business of Houchin & Huber, is a native of Franklin, N. H., and descended from manufacturers and inventors on his grandfather's and also on both his father's and his mother's side; his father, Jonas Aiken, being the inventor and manufacturer of the first successful circular loom knitting machine, and also the inventor of the first breech-loading cannon, building and testing a six-pounder in 1862. Shortly after, Krupp produced a similar mechanism, examples of which they exhibited at the Chicago Fair in 1893. Houchin-Aiken Company have had a large and growing export business and have shipped complete plants and

machinery to nearly every country in the world, including plants to Jerusalem and the interior of Africa, as well as up in the Andes Mountains. They have been employed in a consulting capacity by many of the leading soap manufacturers in the trade."

In the *Boston Post* of November 13, an account is given of an invention by E. E. Winkley of Lynn, Mass. By means of this invention, Mr. Winkley states that vehicles, vessels, submarines, etc., can be piloted through any predetermined course without human guidance or radio. It is a mechanical contrivance depending on the needle of a compass and it is stated that the United States Military and Naval experts are much interested in this invention.

Charles Walter Whitley, Class of '91, died October 9 in the St. Luke's Hospital, New York City. The following brief account of his life and activities is from a letter sent by his secretary: "Charles Walter Whitley was the son of John and Elizabeth Whitley and was born in Chicago, Ill., on June 20, 1868. He received his education in the public schools of Chicago and then entered the Massachusetts Institute of Technology, graduating with the Class of 1891. After leaving Boston Tech he entered the employ of the General Electric Company in Chicago, and later became one of the electrical engineers of the Chicago City Railway Company. In 1896 he removed to Helena, Mont., and became manager of the Helena Water and Electric Power Company. In 1897 he became manager of the American Smelting and Refining Company's East Helena Smelter, where he remained until 1902, when he was appointed general manager of their Utah Department, with headquarters at Salt Lake City, Utah. He held that position until 1919, when he was elected as a vice-president of the company and given charge of their smelting and refining operations in the United States, with headquarters in New York City. At the time of being taken ill he had just returned from a four months' inspection trip to the properties of the company in the United States and Mexico. He was stricken with pneumonia on October 4 and died at St. Luke's Hospital on October 9 and was buried in Mt. Olivet Cemetery, Salt Lake City, Utah. In February, 1910, he was married to Dorothy Kinney, a daughter of Timothy Kinney, one of the largest cattle and sheepmen in Wyoming. Mr. Whitley is survived by his widow and their four children, who reside in Salt Lake City. While in Salt Lake City he had been prominent in Young Men's Christian Association, Red Cross and other public work. He was a member of the following clubs and societies: Bankers' Club, New York City; Engineers' Country Club, New York City; Engineers' Club, New York City; Mining and Metallurgical Society of America; Sleepy Hollow Golf Club; American Academy of Political Science and National Geographic Society."

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#### 1893

FREDERIC H. FAY, *Secretary*, 15 Beacon Street, Boston 9, Mass.

GEORGE B. GLIDDEN, *Assistant Secretary*, 551 Tremont Street, Boston 9, Mass.

A. Farwell Bemis and his son, Farwell G. Bemis, sailed from New York, December 9, on the White Star Line steamer "Olympic," for Southampton, England, on the first leg of a globe-encircling tour that will take them eight months to complete. The immediate object of their trip is India, where A. F. Bemis has business interests as president of the Angus Company of Calcutta, a company owning the largest jute mill in India. For a number of years Bemis has employed young men in work of the Angus Company and a considerable proportion of the Technology men in Calcutta are connected with that company.

The death of Frank F. Phinney on March 6, 1920 will be recalled by members of the Class. The death of his widow was noted in the *Boston Transcript* of December 3, 1921, as follows: "Mrs. Mary Elizabeth (Wells) Phinney, the widow of Frank F. Phinney, who formerly was president of the Warren Steam Pump Company, has died at Phillips House in Boston, in her forty-fourth year. She was born in Southbridge, the daughter of Mr. and Mrs. George W. Wells. Mrs. Phinney was educated at Miss Porter's School in Farmington, Conn., and at Miss Aiken's School in Stamford, Conn. She was married nearly twenty years ago. Mrs. Phinney's country residence is on an estate partly in Stoughton and partly in Warren. For the past two winters she had lived at 199 Marlboro Street, Boston. Surviving her are her mother, a daughter, Miss Mary Elizabeth Phinney, and three brothers, Channing M. Wells, Albert B. Wells and J. Cheney Wells, of Southbridge and Boston."

1894

S. C. PRESCOTT, *Secretary*, M. I. T., Cambridge, Mass.

It has recently been reported in Science that C. G. Abbott, the Director of the Astrophysical Observatory of the Smithsonian Institution, is in South America on a scientific expedition. He was reported as being at Antofagasta, Chile, at the solar radiation station on Mt. Montezuma. He expects to return to this country some time during the present month. Abbott is the recognized world authority on this subject and has made observations in various parts of the world. It is probable that he has travelled over more unusual country than almost any other member of the Class, as in order to pursue his studies, it is desirable to get away from the contaminated atmosphere of densely populated regions and to secure the clear air of the desert or the mountain height.

H. N. Parker, who, for several years, has been the bacteriologist of the City of Jacksonville, has just announced his engagement to Miss Margaret Irwin of Kansas. I am sure all members of the Class will congratulate Parker and extend their warmest good wishes to both him and Miss Irwin for their future life.

The Class will be saddened to learn of the death of Gorham Hubbard, who was associated with '94 during his student days at the Institute. He died on April 29, 1921. No details are known by the secretary.

The son of Col. J. Gray Estey, '94, has been appointed captain of the 172d Infantry, First Vermont Regiment. Captain Estey is at the present time in the marine corps and served throughout the war with the American Field Service and in the Transport Service of the French Army. He spent two years at Amherst College and then came to the Institute to the Ground School of Aviation. It is apparent from the activities of sons of '94 men that the second generation is making good, and also appears that '94 must be getting old.

Six members of the Class turned up at the alumni dinner. Those present were M. S. Chace, N. B. Day, H. S. Reynolds, R. S. Weston, S. H. Thorndike, and the secretary. Chace is back in America again after having spent the summer in Europe, where he went to complete his term of service with the French Government. During the war he was in charge of important naval construction work for the French Government in this country and Canada, for which he was made a Chevalier of the Legion of Honor. He has been back in America but a few weeks and has thus far not accepted any permanent position.

1895

WALLACE C. BRACKETT, *Secretary*, 105 Washington Street, Boston 9, Mass.

The Class will be interested to know of the engagement of Ralph R. Lawrence to Miss Reba M. Bush. The following is taken from the *Boston Transcript*: "Announcement has been made from the Massachusetts Institute of Technology of the engagement of Prof. Ralph R. Lawrence of the electrical engineering department and Miss Reba M. Bush, secretary to her brother, Prof. Vannevar Bush of the same department. Miss Bush entered upon her connection with Tech as secretary to her brother, Professor Bush, when he was appointed to a professorship in 1919. Acquaintance with Professor Lawrence, which began at that time, developed into a romance in which the engagement is the outcome. Professor Lawrence, who is forty-nine years of age, was graduated from Technology with the Class of 1895. After receiving his bachelor of science degree he was invited to accept a professorship in the electrical engineering department. With the passing of the years and his scholarly application to his scientific studies, Professor Lawrence rose high in his profession and is today acknowledged to be one of the foremost authorities on electrical apparatus and machinery in the country. He is a member of the American Institute of Electrical Engineers, the National Electric Light Association, the Society for the Promotion of Engineering Education and other organizations of educators. His home is at 72 Sumner Street, Dorchester."

In the *Boston Herald* of November 27, mention was made of a serious fire in one of the theatres in New Haven. One of the seriously injured in this catastrophe was Walter Crafts of Montreal, a son of Walter N. Crafts, Class of '95.

A recent note from Frank Schmitz states that '95 was represented at the formal

re-opening of the restaurant of the Tech Club in New York recently, by Billy Clafin, Fred Hannah and Fred Cutter, as well as himself. Frank also states that he has been particularly busy for the past several months because, in a moment of weakness, he agreed to act as secretary of the Committee of Twenty-Five, investigating Technology Club affairs. This work, however, is about over and a final report of the Committee to be distributed early in January. We are glad that they had a '95 man on this Committee and we know from our experience that with Frank helping on the work it will be well done. A postscript to his letter reminds the secretary that at least two of the Class have agreed to meet at the Riversea Club next June for another game of "near" golf.

A note from Ned Huxley has also been received. As usual Ned is spending the larger part of his time traveling between here and Europe. He states that on his last trip returning from England he was on the same ship with Jerry Swope. As they each had their wives with them it made the trip very delightful.

We have just learned of the resignation of Richard Binsley Sheridan of the Class of '95, from the vice-presidency of the American International Corporation.

The secretary wants to again remind the members of the Class that he cannot invent notes and unless different members of the Class send in news items the report for '95 in the REVIEW will not be as long as it should be.

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1896

CHARLES E. LOCKE, *Secretary*, M. I. T., Cambridge, Mass.

J. ARNOLD ROCKWELL, *Assistant Secretary*, 24 Garden Street, Cambridge, Mass.

The secretary is in receipt of a most interesting letter from Dickinson who gave up his job in Robert College, Constantinople, last June on account of unsettled conditions, and started in September at the University of Vermont. His letter reads as follows:

"I arrived in this country from Constantinople, on June 1, after a trip which included Athens, Rome, Florence, Milan, Switzerland, Paris, London and Southampton. This seems like quite an array of interesting places, but believe me, I have never seen so good a sight as the green shores of New Jersey, as I looked out of the port hole, on the date above mentioned. With all the things we growl about, there is no place on earth like the good old U. S. A., and in the words of the doughboy, if the Statue of Liberty ever wants to see me again, she has got to turn around to do it. Of course there is much that is of general interest in a city like Constantinople, where the East meets the West, in spite of Kipling, but where the races of men never unite, in any sense of the word. As one of my friends facetiously remarked, 'Boston may be the Hub of the Universe, but Constantinople is its Hubbub.' There, race is set against race, and class against class, in a hatred fed by long years of oppression and injustice. The city has long been overcrowded, with housing conditions made worse by vast areas swept absolutely clean by terrific fires. At the present moment, it is the sole refuge for hundreds of thousands of oppressed and homeless people, from the section of the world of which Constantinople is the center. Consequently, wretchedness and want are in evidence everywhere, and in a city never noted for its cleanliness, in either the physical or moral sense, conditions are now far worse than usual. Business is paralyzed by the political situation, which the so-called League of Nations has not been able to clarify. Consequently engineering work is at a standstill, and the need for education in this line is minimized, a condition which will continue until some reasonable basis for future prosperity is established. Turkey and the environs of Constantinople are wonderfully beautiful places, rich in natural resources, and some day foreign capital and ability will develop these resources. Burlington is quite the antithesis of the above conditions. The quiet, refined atmosphere of the city is a welcome relief from the stress of the last two years. The University is a fine place, where the standards of scholarship and attainment are high, and where one meets a fine class of students and members of the Faculty. E. C. Jacobs, '96, is a colleague on the faculty, and we have been renewing our former acquaintance, after an interval of twenty-five years. Any member of the Class will therefore be twice welcome, should he ever visit Burlington."

His business address is Department of Electrical Engineering, University of Vermont, Burlington, Vermont, and his home address is 41 School Street.

Through the kindness of Jim Haste the secretary was able to secure some splendid enlargements of the product of our official photographer at Wianno and Ted Jones has also done his bit for the Class by providing seventy-five photostats of the signatures of the men who attended the reunion. A set of photographs and photostats has been mailed to every '96 man on the Wianno Club register.

Charley Moat has received a well merited advance as evidenced by the following notice from the *Burlington Free Press* of November 5, 1921: "Charles P. Moat, who has been connected with the Vermont State Laboratory of Hygiene for the last twenty years, was elected acting director of the State Laboratory at the meeting of the State Board of Health, Thursday night. Mr. Moat takes up as acting director the work formerly done by the late Dr. B. H. Stone. Mr. Moat is a sanitary chemist and a graduate of the Massachusetts Institute of Technology."

T. I. Jones is president and member of the board of directors in charge of the Brooklyn Manufacturers Industrial Exposition under the direction of the Brooklyn Chamber of Commerce. This is a co-operative exposition designed to display adequately and properly the great diversity of products manufactured in the borough. The entire floor of the twenty-third regiment armory will be occupied and the exposition will last from Saturday, January 14 to Saturday January 21, inclusive. It goes without saying that T. I. Jones will be a busy man from now until January 21.

I. S. Merrell called on the secretary on November 18. He was accompanied by Mrs. Merrell, his son Seward, and one of his daughters. It was too bad that Merrell did not attend the reunion as he would undoubtedly have continued to hold the championship for '96 Class heavyweight. It is true that he has lost 6 pounds and now weighs only 262 as against a record not long ago of 268 pounds, but the secretary has nothing on record to dispute Merrell's title. However, Wayne has yet to be heard from and his report is anxiously awaited. Merrell also has one daughter attending Bradford Academy. He reports that he is still in the dairy business, or rather he converts dairy products into milk powder. At present the output of the Merrell-Soule Co. amounts to 2000 tons of powdered milk or "klin" a year. In addition they produce some powdered cream, some powdered half cream, some powdered half skim milk, and some powdered skim milk, besides shipping considerable liquid cream which finds its outlet even as far south as Florida. One thousand three hundred and fifty tons of powdered milk represents shipments to Berlin or as high as ten tons per day. If Merrell is a walking example of the benefit of powdered milk, then it would seem as if we ought to try it on some of the thin fellows of the Class.

Dr. Mortimer Frank's translation of Choulant's "History of Anatomic Illustrations" still continues to find favorable comment in the press. Two pages of the issue of *Science* of October 21 were devoted to a review of this work.

Through the kindness of Bakenhus the secretary has received a government publication giving in considerable detail the record of the activities of the Bureau of Yards and Docks of the Navy Department during the war. Bakenhus not only contributed to this volume but was largely instrumental in having the history prepared. It deals with the many and varied construction jobs with which the Bureau had to do during the war. Although the secretary has not yet had time to study it in detail, yet a glance through it indicates the amount of work that was done by the bureau during the war and also the care that was taken in preparing the book. It should be noted incidentally that Bakenhus is now acting Chief of the Bureau of Yards and Docks with headquarters at Washington, D. C.

#### CHANGES OF ADDRESS

Mr. Frank R. Cook, R. F. D. No. 1, Pontiac, Michigan; Mr. Charles E. Lawrence, Grand Central Terminal, Room 5613, New York, N. Y.; Mr. Edward A. McGonigle, 1858 Penobscot Building, Detroit, Mich.; Mr. Mortimer A. Sears, 1944 Second Street N. W., Washington, D. C.; Mr. William D. Smith, The Mineral Point Zinc Co., Depue, Ill.



1898

A. A. BLANCHARD, *Secretary*, M. I. T., Cambridge, Mass.

The committee on our twenty-fifth reunion is at work and has the outline of plans well in hand. The reunion will be in May, 1923, in the week preceding commencement at Tech and will be held at some resort having unexcelled golf facilities and accessible both to New York and Boston contingents. Later a large delegation of the Class will attend the commencement in a body. It is not too long a distance in advance to plan one's movements and everyone must plan to take part in this celebration. The committee, E. R. Barker, chairman, 79 Milk Street, Room 1111, Boston, wants to know the wishes of the Class and requests letters from individual members with ideas as to features of the reunion. Barker has a son, Elliott R. Barker, Jr., in the freshman Class at Tech this year.

E. S. Chapin has returned to Europe with his family after a brief visit at home. He continues his work in representing the American dyestuff interests abroad.

1899

W. MALCOLM CORSE, *Secretary*, 603 Elm Street, Westfield, N. J.

The secretary's S. O. S. call for news resulted in eleven replies, which, while a small percentage of the total, is still very satisfactory. If we can keep on increasing this number from now on we will have to enlarge the REVIEW space.

The following regarding Stuart A. Courtis, VI, will be of interest:

Two Detroiters, father and son, are included in the honor list of 1000 names in "American Men of Science," recently published by J. McKeen Cattell and Dean R. Brimhall. The Detroiters are Stuart A. Courtis, dean of Teachers' College, and his father, William Munroe Courtis. Scientists consider the annual honor list a highly exclusive roster. In compiling it a preliminary list of 9500 men of science is made. This collection is cut down to 1000 men who, during the year, have been the most valuable contributors to scientific development. The elder Mr. Courtis, who is eighty years old, has been prominent in scientific realms for half a century. His career includes management of gold, silver, tin, lead and copper mines all over the country. He went west in pioneer days ahead of the railroads. He was the first engineer to analyze the ore deposits of Leadville, Col. In addition to his reputation as a metallurgist and mining engineer he is an eminent botanist. His research labors have resulted in the discovery of amarillium, a metal similar to platinum. Also he discovered two types of butterfly and six types of flower and plant life. The son, Stuart A. Courtis, is celebrated in academic circles for his "Courtis Tests." He began his professional career as an electrical engineer upon graduation from the Massachusetts Institute of Technology in 1899. He has been teaching for about fifteen years and is considered one of the leaders in current educational methods.

Lawrence Addicks sends in the following verse: It is the first time we knew Addicks had poetical tendencies:

"Who's the cute kiddie of Ninety-Nine Class?

Why of course it's Mal Corse of Course Five.

Who sends each ass in the Class his choice sass?

That sounds a bit coarse, but Mal Corse is alive.

Now I'm not averse to a verse that will pass

And I'm not any worse than the worst in the Class,

But when news all refuse and you cannot prevent it,

Why not use the Class dues, and just buy or invent it?"

Miss Henrietta Dozier, who lives in Jacksonville, Florida, now, sends in a short, but illuminating, answer as follows: "Busy, thank God! After 7 'lean' years."

Henry C. Eaton writes as follows: "Here at Waltham Watch Company drastic changes have been made and yours truly has been handed more responsibility than ever in the process of shortening sail. Wish you could see the 'chart' for my department as prepared by the efficiency experts. Looks imposing to say the least. Time will tell as to its practicability."

George P. Dike sends us some news, although he says he hasn't any: "I can't send



news when there isn't any. I am still practising patent law and having moderate success — at least the Courts seem to agree with my views in a fair proportion of cases. Even the United States Supreme Court, Chief Justice Taft himself, has just decided that I was right in a case which my client thought was very important."

Atlanta seems to be doing pretty well in the way of news, because C. A. Smith has added to our stock quite materially: "Am still on the job in Atlanta where I have been since 1906. Have three children, all born here, twin girls, aged eleven, and one boy aged thirteen. We have an M. I. T. Association here and lunch together every Friday noon at 12.30, Ansley Rathskeller. Made a trip to California, where my people now live, this past summer, stopping in New Orleans, Los Angeles and Frisco. Visited an M. I. T. man, Bill Kelly, '98, in Los Angeles. After I got home I lazed up in the hospital for several weeks with gallstone operation. Street Railway business is dull and we are doing little but maintaining and reconstructing."

Norman Rood, whom we all remember as the artist of '99 *Technique*, sends in the following, regarding Tommy Lennan. Norman has done two things; he has given us some news about himself, also about another classmate. This is two hundred per cent efficiency:

"T. F. Lennan, V, has just returned to his home in Joplin after an extended trip through the East. On Monday, November 14, he was joined in Philadelphia by N. P. Rood, IV, who left his happy home in Wilmington for the purpose of staging a '99 Class dinner with these two in attendance at the Bellevue Stratford Hotel. At the conclusion of the dinner both parties repaired to New York which city was carefully inspected during the course of the evening. On the following Saturday and Sunday, Tommy Lennan visited Mr. Rood at Wilmington and the next forty-eight hours were devoted entirely to golf. Mr. Lennan proved beyond the question of a doubt that neither borrowed clothes nor borrowed golf sticks place any handicap upon him and he and his host claim that they cleaned up the best of the Wilmington golfers who put in their appearance at the Wilmington Country Club on these two days. Tommy Lennan then went on his way to Washington from which point we have not yet received a report."

The secretary saw Burt Rickards in the Hotel Astor in New York recently. As a result Burt sent in a lot of news. Rickards' present position is Director of the Division of Public Health Education, Albany, N. Y., for the State of New York.

He is editor of *Health News*, 24-page monthly, circulation 19,000; *Public Health Nurse Bulletin*, 8 pages, circulation 3,500; *Health Officers' Bulletin*, 8 pages, circulation 4,400. Rickards is treasurer of the Albany Kiwanis Club, and is secretary of the Section on Publicity and Health Education of the American Public Health Association. Rickards says he has been at the House of Correction, County Jail and State's Prison, but so far has always had a pass out as well as a pass in. Rickards has evidently been doing some fine work for the State and is to be congratulated on the showing that his department has made.

Alex Holliday writes from Indianapolis that he is now president of the local Alumni Association which holds monthly dinners averaging an attendance of fifteen. The Institute, educational problems, and usually a paper prepared by one of the members on some phase of his work constitute the program. Holliday says: "In the contracting business here, which is reinforced concrete bridges, we have had an especially prosperous year. There is very little work in sight for 1922. We are not greatly discouraged over this, however. Two public service companies in which I am interested are doing fairly well. Decreased costs of operation over 1920 are giving us better net results."

George K. Priest writes from Brockton, Mass., as follows: "I guess it takes more of an egotist than I am to believe that my personal happenings can be of any great interest to the Class. My business, managing a Gas Company, is a good deal of a stay-at-home grind. Of course there have been many new problems to solve as a result of war conditions and the job has been pretty strenuous. The majority of Public Service Managers around here are candidates for a rest cure, or worse. Pulling a company along for four years without dividends doesn't make a manager feel real enthusiastic when he sees a big stockholder approaching. However, things are improving and the Public Utilities will eventually come back to their own. I have done quite a bit of original work on scientific rates, which have been adopted by many companies all over the United States."

From A. H. Herschel, who now lives in Trenton, N. J., we hear the following: "I cannot overlook your strong appeal for news, although my connection with the Class of

'99 was very slight and it seems hardly probable that news items about myself will be of interest to the Class. Mrs. Herschel and I have spent the last four winters in southern California in order to be in a mild climate. We are at present in Trenton, being as close to Princeton as possible. We would like to be in Princeton, but owing to the housing situation there and the large number of students who have difficulty in finding rooms it seems best to stay in Trenton for the present. The only member of the Class of '99 whom I have met in recent years is Richmond who is in business in Providence, R. I. He is (or recently was) dealing in investment securities. Another man (not '99) a very old friend of mine, George W. Rolfe, expects to spend the winter in Cuba where he will have charge of a sugar plantation."

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1900

GEORGE CROCKER GIBBS, *Secretary*, 25 South Street, New York, N. Y.

What shall we do for the Class reunion in 1925? The secretary wants hints and suggestions. We can't let the quarter century mark pass, without noticing it. We never have had a real outing. The secretary can't think of going through life without one real get together with the men he travelled along with at Tech. We must do something. We must start now and get publicity, and hammer away at it for the next three years. Send your suggestions and promises.

Forty-eight men have contributed \$102 to the Class fund, in amounts varying from \$1 to \$10. All equally welcome — let them come on and on. Many thanks for the Class. Several have joined the Alumni Association. Will report this in the next letter.

The secretary was resident in New Orleans, La., from October 15 to November 20. He had a bit of a 1900 reunion with John Lewis Porter, '00, IX. John for the last twenty years has been responsible for transmuting the Mississippi River into good drinking water, at least a huge amount of it which passes New Orleans annually. The philosophers of ancient Greece in one of their phases of thought, described the "Reality" of the universe under the species of "change" or "motion" — and used the figure of water flowing past a given point — never the same. Porter apparently is still dwelling in that School of Philosophy. Some departments of M. I. T. may question *my* philosophy, but no one can question the good quality of the drinking water at New Orleans, as the secretary has drunk of it for five months out of the last year.

Professor James A. Patch is welcomed back to his own country, after a record at the American University at Beirut, of which any Tech man or 1900 classmate might be proud. He is engaged in "Patchwork" at the present time — at least so says the publication of that name, which is the organ of the E. L. Patch Company, of Boston, of which company Patch has taken charge of the production end of its activities.

We are happy to congratulate Mrs. Margaret J. Stannard, '00, on her success as director of the Garland School of Boston. It has a splendid aim — "To make Homes." In the introduction to the catalogue of the Garland School of Homemaking, the following quotation adapted from Henry Drummond well describes the ideals taught there: "Whether our national life is great or mean, whether our social virtues are mature or stunted, whether our sons and daughters are moral or vicious, whether religion is possible or impossible, depends upon the Home." Mrs. Stannard writes that the Class of 1900 is of special interest to her, because the special work she had the good fortune to accomplish at Tech was done in the Class of 1900. The secretary has welcomed her to the Class, and has suggested that all dues be remitted. He knows of the success of the school from several persons who have sent their daughters there.

As you all know, Prof. Charles Cross has recently died. His work at the Institute and outside is a record of untiring interest and activity. As a professor at Tech, and for scientific ability applied in the electrical world we all remember him. The editor of the REVIEW is desirous of collecting information regarding his connection with the Institute. Any one who can furnish such information will please communicate with R. E. Rogers, editor.

Congratulations to Henry C. Morris, 1900. The following is a credit to the Class:

"The appointment of Henry C. Morris of Washington, D. C., to head the new Fuel Division of the Bureau of Foreign and Domestic Commerce, was announced by the Department of Commerce on September 5. Mr. Morris is a graduate of the Massachusetts

Institute of Technology. He has had experience as a mining engineer in Colorado, Nevada, California, and in examination work in Mexico, Canada and Missouri. In 1917 he entered the Fuel Administration as a mining engineer, serving until May, 1918, when he was transferred to the Bureau of Mines, where work included membership on the Capital Issues Advisory Committee and related applications and on the War Minerals Investigation. He was nominated by Secretary Lane as representative of the Bureau of Mines on the Economic Liaison Committee at its inception and served continuously until his resignation in June, 1920. Later he collaborated with four others in preparation of report for the United States Shipping Board on fuel-oil supply. He was also contact man on international petroleum matters, with State, Commerce and other Departments, and made special study of the whole subject for the Director of the Bureau of Mines. Recently he prepared a booklet on the Raw Material Situation in the United States for the United States Chamber of Commerce."

The secretary wishes to add the following news from the man himself:

"I have your letter of the thirteenth and thank you for congratulations on my appointment under Hoover. I have always wanted to get a good 'close up' of the Big Chief of the Mining Engineers and am enjoying that experience very much. I feel that the time is well spent because we are doing something constructive, and for the good of the country as a whole, whether or not the country recognizes it at the present time. Mr. Hoover's personal reputation and his genius for organization have attracted to his staff in the Department of Commerce men whom it would be ordinarily impossible to interest, even temporarily, in a government salary. I think that it is an encouraging sign of the times that men with a reputation for success, and some means of their own, are willing to practically donate their services to poor old Uncle Sam whose pockets are so empty that he cannot afford to pay enough to secure and keep the capable but poor men who would earn, for our Uncle, enough in efficiency to more than pay their way. How much longer will we continue to save at the spigot and waste at the bung, even after the limitations of armaments are successfully arranged? Even moralizing — and let's get some action — even in 1900."

The secretary is slowly getting into form. However his letters get slow response, but he has lots of faith in ultimate response and hence there will be no "let up."

The secretary received the following account of the trip Ingersoll Bowditch recently made to California: "On October 5 I left Boston with four boys, and picked up a fifth in Chicago to go to the Evans School in Mesa, Arizona. At Chicago we took an automobile ride through the parks but did not have time to look up Tech men. On my way East I tried to see Chase and Leonard when I passed through Chicago, but they were away. We stopped over Sunday at the Grand Canyon and took a mule ride down the Bright Angel Trail, as far as the plateau, and had a most wonderful experience. After leaving the boys at Mesa, I took the train for Los Angeles, where I spent the morning and then went to Riverside, and spent the night with Arthur White. He has a very comfortable home just outside the center of the town, and I enjoyed talking over old times with him. He is busy looking after four fruit ranches, to say nothing of four boys and a girl. He has been in Boston very seldom, since he graduated, but gets to Pennsylvania once in a while, so that his wife can see her family. He hopes to get on for our twenty-fifth reunion. He drove me about in his automobile, and pointed out the different places of interest. The next morning I took an auto bus to South Pasadena, and had lunch with Dr. and Mrs. George Hale. I did not have time to go up Mount Wilson and see the Observatory, but hope to do so the next time. I was met by a friend and motored to Santa Barbara, where I stayed five days, and came home via San Francisco and Portland, Oregon. I stopped off at Weiser, Idaho, and spent a day and a night at the Intermountain Institute, in which I am interested. This is a school of about one hundred boys and girls, who live in the sparsely settled districts, and have no other chance to get a high school education. They do a certain amount of work about the school, and are a very bright looking lot of scholars. The school is supported to a very great extent by donations, as the scholars are not able to pay very much for their tuition. The Institute has the champion dairy herd of Holsteins, of the State of Idaho, and is just completing a new school building for the equipment of which money is needed."

## "IN MEMORIAM

WARREN CHAMBERLAIN TUDBURY

Died in the city of Berkeley, California, on May eighteenth, nineteen hundred twenty-one.

He was born in Salem, Massachusetts, on November fourteenth, eighteen hundred seventy-seven — the son of John Thomas Tudbury and Sarah Lizzie (Tibbets) Tudbury. Receiving his early education in the public schools of the city of his birth he later entered Massachusetts Institute of Technology, from which he graduated in the year nineteen hundred with the degree of Bachelor of Science. In his professional life after graduation he specialized in railroad engineering in and around New York State, becoming eventually Assistant Chief Engineer for the New York Central lines, with headquarters at Utica, New York.

In the fall of nineteen hundred thirteen, he came to California to make it his future home and settled in the city of Los Angeles, where he maintained his home until nineteen hundred sixteen. In November of nineteen hundred sixteen he foresaw the participation of the United States into the world conflict then raging, and entered the service of the Federal Government, becoming Structural Steel Draftsman, in charge of design, for the Bureau of Yards and Docks of the Navy Department, stationed at Washington, D. C. From November fifteen, nineteen hundred sixteen, until May, nineteen hundred eighteen, he remained in Washington rendering valuable and efficient service to the Navy Department. During this period he also wrote the specifications for the construction of and designed the track lay-outs for the enormous Projectile and Armor Plant of the Federal Government at Charlestown, West Virginia. On June first, nineteen hundred eighteen, he was transferred to the Mare Island Navy Yard, near Vallejo, California, as Expert Aide in charge of war time construction, and continued to serve his country in this capacity throughout the remainder of the war.

On September twenty-second, nineteen hundred fourteen, at Berkeley, California, Mr. Tudbury was united in marriage with Miss Ethel Putnam Wheeler, also from Salem, Massachusetts, who is a direct descendant of General Israel Putnam of Revolutionary War fame. Their union was blessed with one child, Patricia Breed Tudbury, who was born in Washington, D. C., on March eighth, nineteen hundred eighteen.

He was an ardent and capable genealogist, and also intensely interested in ornithology, nature study, and philately. He leaves the world richer by a vast amount of carefully collected and methodically arranged genealogical material relating to both his own and other families and by a wonderful collection of naturally colored photographs and lantern slides of bird life. In connection with his genealogical work he wrote 'An Account of the Private Armed Brig-of-War "Grand Turk" (1812-1815) of Salem,' which was commanded throughout the War of 1812 by his great-grandfather, Captain Holton Johnson Breed. He was a member of the Society of Colonial Wars, the Sons of the Revolution, the Society of the War of 1812, the California Genealogical Society, the Audubon Society of New York, the American Philatelic Society and the American Society of Civil Engineers. He was descended from the Andrews, Breed, Newhall, Wells, Ruck, Lindsey, Symonds, Tibbets and other notable New England families of pioneers, and through their patriotic services became a member of the hereditary patriotic societies which he loved and served so well. Quiet, retiring and unassuming by nature, he had a host of friends who realized his worth, prized his friendship and mourn his loss.

He is survived by his mother, Mrs. Sarah Lizzie (Tibbets) Tudbury, and his sister, Miss Mary Breed Tudbury, of Salem, Massachusetts; and by his widow, Mrs. Ethel Putnam (Wheeler) Tudbury, and interesting little daughter, Patricia Breed Tudbury, now residing in Berkeley, California."

## CHANGES OF ADDRESS

Frederick S. Goodridge, 246 Springfield Avenue, Hasbrouck Heights, N. J.; Lewis M. Lawrence, 76 Lake Avenue, Melrose, Mass.; George H. Leach, 50 South Street, Brockton, Mass.; Albert S. Merrill, Engineering Department, Westinghouse Lamp Co., Bloomfield, N. J.; Miss Hortense W. Lewis, 56 Egmont Street, Brookline, Mass.

1901

A. W. ROWE, *Secretary*, 295 Commonwealth Avenue, Boston, Mass.

Since the last communication through these columns but little news has filtered through to your secretary. This is due to the fact that but few more of the data sheets sent out in the summer have been returned.

Louis Williams, who has been with the United Fuel and Supply Company for a number of years, has been transferred from the management of the marine department to that of the sand and gravel plant; or, as he puts it, "has been transformed from a duck to a gopher."

H. P. Parrock, II, and family are leaving Buffalo to make their home in the East. He is engaged to do special work with the Draper Corporation, at Hopedale, Mass., for an indefinite period.

There was a very interesting article in the *New York Sunday News* of November 20 on Matt Brush. The interview is too long to abstract but the most significant statements may be summarized as follows: "Success depends upon selling yourself every day of your life to every one whom you meet. Selling yourself to your employees and associates, repeating the process continually because there is no yesterday. Putting everything that is in you in every talk you have with anybody, no matter how unimportant he may seem to be. Being on the level all the time."

Your secretary has recently attempted to organize a Choral Society at Technology to embrace both the undergraduates and the alumni. All of the members of the Class of '01 within a radius of fifteen miles of Boston were notified and it is with a sense of pride and gratification most emotionally disturbing that your secretary reports the splendid response from the Class of '01. No one has turned up. With the keen and avid interest which we all have in Institute affairs it is no wonder that we are the dominant factor in the Alumni Association which daily experience shows us to be. In this connection your secretary would urge you to read an article by the editor, Professor Rogers, appearing in the last REVIEW on "Foch — and a Moral." There is one there for every Tech man.

Now write in and tell us all the news. Of course, with unbridled imagination it would be perfectly possible for your secretary to compile any quantity of interesting information concerning individual members of the Class, but as he is uncertain how far the laws of libel operate in matters of this sort, he prefers to follow the path of caution.

The following changes of address are noted:

Charles F. F. Campbell, Red Cross Institute for the Blind, Box 588, Baltimore, Md.; Frank Cushman, 200 New Jersey Avenue N. W., Washington, D. C.; Willard W. Dow, 185 Devonshire Street, Boston, Mass.; Allen B. McDaniel, 1729 Q Street N. W., Washington, D. C.; Ralph H. Stearns, Hall of Records, Room 306, New York, N. Y.

Since the above was written word has reached your secretary of the death of Harry Peake MacDonald in mid-summer. At present writing there are no details other than the sad fact of his going. Your secretary has conveyed the sympathy of the Class to Mrs. MacDonald in her bereavement and hopes to have more information for you on the next writing.

1902

FREDERICK H. HUNTER, *Secretary*, Box 11, West Roxbury, Mass.

On Thursday evening, November 17, a very successful gathering of the classmates around Boston was held at the Boston City Club. The following were present: Ames, Boardman, Collier, Eames, Edwards, Fitch, Galaher, Geromanos, Greeley, Hunter, Kellogg, A. T. Nelson, Patch, Philbrick, Ritchie, Robinson, A. H. Sawyer, Sears, Sherman, Taylor, Walker, Whitney, Williams, Williston.

Attention was called to the twentieth reunion of the Class to be held next June. This brought up considerable discussion especially of the question as to whether the reunion should be for men only, or whether it should include ladies. An informal poll showed the assembly pretty evenly divided, and the secretary suggested that a referendum would be taken. The circular and reply card on this are going from Class headquarters as these notes are written.

The feature of the evening was an informal talk by Geromanos on his recent trip



around the world. Gere had many interesting things to tell, particularly about the Orient and Australia, and answered a host of questions. He showed many souvenirs of the trip including a Russian bank note, which he bought for a few cents in Constantinople, and whose value before the war would have been several thousand dollars. The talk was illustrated with reflectoscope showing many pictures Gere had taken on the trip, and postcard views which he had picked up.

Walter Fitch has severed his connection with the Griswoldville Manufacturing Co. and is again connected with the Dennison Co. of Framingham. He has taken up his residence on Summit Road, Wellesley. At the dinner he received a hearty welcome back to the vicinity of Boston.

We quote the following from a November number of the *Greenfield (Mass.) Recorder*: "F. Deane Avery, who with four assistants, has been running the lines on the tract of land comprising from three to four thousand acres along the Mohawk Trail on Hoosac Mountain, practically completed the work Tuesday after working about three months." We shouldn't mind being one of Jimmie's assistants on a job of this kind in the summer, but at the present writing, we beg to be excused.

In the bulletin of the *Federated American Engineering Societies* under date of December 8, the following item appeared: "New division in Department of Commerce to consider simplified commercial practices. It will be a subdivision of the Bureau of Standards. William A. Durgin of the engineering staff of the Commonwealth Edison Company of Chicago has been granted a leave of absence so that he may assume the immediate direction of the work of the new division. The work of the division will be devoted entirely to the elimination of waste as applied to commercial practices."

Bayard W. Mendenhall is manager of the Mendenhall Auto Parts Company, located at 26 South West Temple Street, Salt Lake City, Utah.

Deep sympathy will be felt for our classmate Walter Farmer, whose wife, Ruth Capen Farmer, died on November 9. Mrs. Farmer was the daughter of the late Dr. Capen who was president of Tufts College during our student days. For some years Farmer's home has been in Wilmington, Del., where he is connected with the du Pont Company.

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#### 1904

HENRY W. STEVENS, *Secretary*, 12 Garrison Street, Chestnut Hill, Mass.

AMASA M. HOLCOMBE, *Assistant Secretary*, 3305 Eighteenth Street, N. W., Washington, D.C.

By some error, the address of the secretary printed at the head of the 1904 notes in the November REVIEW was given as Springfield, Mass., and the name of the assistant secretary was omitted.

The secretary wishes to state that there has been no change in his address, or in the personnel of his organization. His address is still 12 Garrison Street, Chestnut Hill, Mass., and his assistant secretary is still A. M. Holcombe, of Washington, D. C.

In opening these few notes, the secretary extends to all his classmates his very best wishes for a most happy and prosperous year to come, and hopes that all have enjoyed a very Merry Christmas.

Notes of the doings of the members of the Class are rather scarce, but the secretary is glad to record and pass along what he has, and is in continual hopes that more may be forthcoming for future issues.

A card arrived last month from Selskar Gunn, bearing the following message: "Christmas Greeting and best wishes to you and all 1904 men for 1922. Promised letter actually will come soon. Don't faint when it arrives!"

Readers of last January's REVIEW will perhaps remember that Gunny sent a similar card last year and mentioned the same letter. Gunn is still in Prague, Czecho-Slovakia.

Charley Stebbins has ceased to be a chemist for the present and is now selling automobiles for the Oldsmobile Company of Boston.

E. F. Rockwood has recently acquired the Johnson Autobody Company and is manufacturing automobile bodies. His factory is located in Hyde Park, Mass.

The following clipping from the *Salem, (Mass.) News* of November 1, 1921, is presented, not because of its political value, but because it shows that one of our members is active



in the affairs of his native town, and because it gives us some news about Barnaby which many classmates will be glad to know.

Nomination papers are in circulation in Ward Five in the interest of George A. Barnaby as a candidate for the council from that ward, and are meeting with plenty of signers. Mr. Barnaby was born in Peabody forty-one years ago, is a graduate of the grammar and High schools of this city, and of the Massachusetts Institute of Technology. He was a member of the old board of public works under the town form of government, and was town engineer in 1913. He is a member of the Mark E. Kelley Company, contractors and builders. He belongs to the Chamber of Commerce and the Peabody Rotary Club, is married and has within a year completed and is now occupying a new house at 29 Gardner Street.

#### 1905

GROSVENOR D'W. MARCY, *Secretary*, 377 Broadway, Boston 11, Mass.

CHARLES W. HAWKES, *Assistant Secretary*, 246 Summer Street, Boston, Mass.

On November 24 the engagement was announced of Miss Ruth Lucy Leveridge and Fred Warren Goldthwait. Those who were at the Duxbury reunion will not be slow to congratulate Fred.

Mrs. William L. Whipple of Oberlin, Ohio announces the marriage of her daughter, Miss Margaret Holmes Whipple to Robert Keep Clark of Evanston, Ill., on September 27, 1921. They will be at home after January 1 at 1615 Ridge Avenue, Evanston, Ill.—Grafton and Helen Perkins announce the birth of Robert Wilder Perkins on October 31, 1921. Grafton says that little brother and sister had insisted that the Hallowe'en witch would come across, and she did. Grafton is now one of the officials of the Chartered Advertising Corporation at 52 Vanderbilt Avenue, New York City.

The following item from the *Hartford Courant* of November 2 announces the appointment of Jimmie Barlow as city manager of New London. It also prints a picture of Jim, which I hope is not a good one, for while it makes him look old and dignified enough to be city manager, I can't say it looks like him much.

"James E. Barlow, for three years city manager of Dayton, Ohio, under that city's council manager form of government, was last night formally appointed city manager of New London by a unanimous vote of the city council. Mr. Barlow's salary was fixed at \$7500 a year and the city will pay the moving expenses of Mr. Barlow's family to this city. Mr. Barlow is a native of Somerville, Mass., is forty-one years old, married and has one daughter eight years old. After education in the public schools in Somerville he entered the Phillips-Andover Academy and then took a course in engineering at the Massachusetts Institute of Technology. He was then engaged in engineering for Boston in its water and sewer department and later did similar work in and around New York City. H. T. Waite, who became the first city manager of Dayton prevailed upon Mr. Barlow to accompany him to Dayton to become director of public works. Mr. Barlow served in this capacity for four years and when Mr. Waite retired Mr. Barlow became city manager and served three years, retiring January 1 of this year."

Pret Smith reports as follows: "I am in the beverage business; our stuff runs one hundred per cent and is pure and always uniform. It is coffee made by an absolutely new and revolutionary process. We have had wonderful success so far and Doc Prescott says it is great stuff. I have the title of general sales manager. Saw Bob Clark of our Class the other day on his way to get married. He looked *late* but happy. As ever, *Pret Smith*."

It was rather a strange coincidence that on the same day that announcement appeared in the press of the death of Professor Cross the following letter was received from Charlie, or rather "Seedy" Klahr, who achieved immortality by entering Professor Cross' lecture room by his private spiral staircase. Who ever will forget the professor's inarticulate amazement and the look of injured innocence on "Seedy's" face when the professor put him out?

"In ridding out my desk today I found the enclosed notice of the assessment of 1920 Class dues. With my customary (with the accent on the cuss) promptness I am enclosing a check. I don't know whether I reported to you that I was a farmer for a number of years until the War ended when I sold my farm. Since then I have been engaged in State Highway construction. Our contracts are completed and at present I am doing nothing. Last month I took my family, which consists of my mother and sister, for an automobile

trip and we stopped at Washington, Pa., where I had a delightful visit with Jim Lambie. He has one or two hairs missing from the top of his head, but otherwise is the same old Jim. I had a very interesting trip through his factory, The Findlay Clay Products Co. Not long ago I ran across an old letter of yours written about the time you were married. You said you had the best girl in the world, or words to that effect. I have no doubt time has more than confirmed the opinion you had in those days. I wish you would tell me what kind of bait you use to land that kind. With best regards, I am, as ever yours, (Signed) *C. Dean Klahr.*"

The following two paragraphs from a letter from Roy Allen will answer the question which many of his friends have been asking, as to what had happened to Roy during the present upset times in the mining industry. His address is Box 573, Joplin, Mo.

"You ask for news. There isn't any. I wish there was. Have been in Joplin since July, and marking time to no apparent effect. Have been doing a little prospect drilling on some land in the Kansas section of the Joplin district, and have made some oil lease investigations for people in the East; but there has not been work enough to keep me from becoming as lazy as the typical Missouri 'Hill-billy;' would welcome a return to 'normalcy.' Do not know of any Class news. I saw Bill Motter for a few minutes in New York last spring, and Bill Spalding as we drove through Buffalo on our way here. Bill has been really busy through all of the slump. Have had just a card from Charlie Johnston since he returned from the Rotary convention at Edinburgh. He had a fine trip. Three weeks ago I had a letter from E. S. Graham, but he gave no personal news. By the way, Graham is one of the oil magnates of Texas, though he will not say so. He has done well. (Signed) *Roy Allen.*"

Rolly Prichard reports that he is very busy in his new job as vice-president and general manager of the Lowell Gas Light Company, and likes it very much.

#### CHANGES OF ADDRESS

Mr. William H. Beers, Box 116, Gatun, Canal Zone, Panama; Mr. Edward H. Bartlett, 112 Parker Street, Newburyport, Mass.; Mr. Charles R. Prichard, 22 Shattuck Street, Lowell, Mass.; Mr. Waldo Turner, 452 West Larned Street, Detroit, Mich.

#### 1907

BRYANT NICHOLS, *Secretary*, 2 Rowe Street, Auburndale, Mass.

HAROLD S. WONSON, *Assistant Secretary*, Care W. H. McElwain Co., Manchester, N. H.

The fifteenth annual reunion of our Class will be celebrated in fitting style by a three-day outing at some place in the general vicinity of Boston over the week-end of June 16, 17 and 18, 1922. Plan now to attend. If you live at a long distance from Boston, try to arrange to come East for a business trip or a pleasure trip at this time, so as to be able to take in the reunion. Notices giving exact dates will be mailed during January, and we'll keep you posted more and more thoroughly as spring approaches.

There is mighty little news regarding members of 1907 in the hands of the secretary. Allan R. Collimore is now teaching at the College of Engineering, Newark Technical School, Newark, N. J.—Allen Pope is living at 4722 Fifteenth Street, N. W., Washington, D. C.

A portion of a letter from Harold Wonson follows. Harold lives in Bedford, N. H., some six miles out of Manchester. "I have been having a fairly strenuous time out in Bedford (N. H.), as I wanted to have a decent school for Marcia (Harold's daughter) to go to, and started a campaign for the same about a year ago. We put the proposition across at the school meeting after considerable opposition, but they got even with me by putting me on the School Board and making me chairman of the building committee. I have at the present time a volume over an inch thick which tells the whole story of the building of the new school in Bedford, District No. 1. The youngsters moved in last Thursday morning for the first time. It was an interesting party while it lasted, but I spent about as much time building the schoolhouse as I did working for the McElwain Company; but we have a very nice little school, and I think the results justify our efforts. I have had considerable insight into the politics of country towns, and know quite a little bit more about human nature than I did before I got mixed up in it. I am also

getting to be quite a farmer, and can tell at least four different kinds of potatoes by the general appearance, know the difference between hay and straw, and can hold my own pretty well in the farming conversations that take place at the country auctions which Ruth and I frequently visit on Saturday afternoons. I am the proud possessor of one dog, one horse, two pigs, forty hens, a hay rake, and a miscellaneous collection of assorted sizes of farming tools. I am always on the lookout for a good hayrack, farm wagon, cultivator, and plough, but as I have developed a certain amount of ability in judging the value of second-hand farm equipment, I am waiting until the right sort of bargain shows up at one of the country auctions before I make any further investments. I know the best method of how, when and where to spray fruit trees (have you ever used lime sulphur? If not, you should, as it will take you back to the days of hydrogen sulphide in the Freshman Lab), and am getting to be somewhat of an expert on pruning, as well as having developed considerable dental ability in filling up the holes in fruit trees with cement."

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1908

RUDOLPH B. WEILER, *Secretary*, 340 North Penn Street, West Chester, Pa.

LINCOLN T. MAYO, *Assistant Secretary*, 181 Massachusetts Avenue, Boston, Mass.

A bi-monthly meeting was held December 13 with the following present: "Nick" Carter, Carl H. Bangs, "Bunny" Ames, "Pop" Gerrish, C. W. Clark, A. M. Cook, Howard B. Luther, H. P. Gurney, W. E. Barton, E. H. Newhall, Lincoln Mayo. Those present spent the evening in hearing the election returns.

The following is from the *Salem News* of December 8: "The engagement is announced of Miss Edna B. Blood and Bernard S. Leslie of this city. Miss Blood is a graduate of Wellesley College and for some time has been district agent for the North Shore Branch of the Massachusetts Society of the Prevention of Cruelty to Children. Mr. Leslie is a graduate of the Massachusetts Institute of Technology and is a member of the official staff at the United Shoe Machine Corporation."

Orrin S. Lyon was married October 26 at Brooklyn, N. Y., to Miss Helen B. Jensen.

The engagement is announced of H. F. Richardson to Miss Naomi Budenbom of Brooklyn, N. Y.

#### NEW ADDRESSES

Howard E. Batsford, 1530 Sunset Avenue, Utica, N. Y.; Francis M. Bond, Green Spring Avenue, Mt. Washington, Md.; Leander M. Brown, Jr., care Chas. D. Brown & Co., 40 Court Street, Boston, Mass.; Harry L. Burgess, care Bell Telephone Co., 1631 Arch Street, Philadelphia, Pa.; Rev. Herbert A. Cassidy, 244 Bruce Avenue, Youngstown, O.; John H. Caton, 3d, Direccion General De Obras Publicas, De La Republica Dominicana, Santo Domingo, D. R.; Major Maurice E. Denny, Ardenvoehr, Cardross, Scotland; Lee Hagood, care Anderson Meyer & Co., Ltd., Vladivostok, Russia; Matthew C. Hayes, Titanium Pigment Co., Niagara Falls, N. Y.; Carl E. Hollender, 52 Western Avenue, Brattleboro, Vt.; Bradford B. Holmes, 325 E. 50th Street, New York, N. Y.; Stiles F. Kedy, 372 Atlantic Avenue, Atlantic, Mass.; Karl R. Kennison, 25 Pemberton Square, Boston, Mass.; Clarence R. Lamont, 40 Grove Street, Wellesley Hills, Mass.; Rev. William G. Logue, 50 Barry Street, Dorchester, Mass.; Eugene V. Potter, Main Street, Hingham, Mass.; George Schobinger, care D. P. Robinson & Co., 125 East 46th Street, New York City; Alexander C. Sloss, Jr., 403 Fourth National Bank Building, Grand Rapids, Mich.; Edward R. Smith, 7 Tufts Street, Malden, Mass.

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1909

CHARLES R. MAIN, *Secretary*, 201 Devonshire Street, Boston, Mass.

GEORGE A. HAYNES, *Assistant Secretary*, 530 Atlantic Avenue, Boston, Mass.

I wish I might be able to fill up a whole page in the REVIEW with Class notes, but very little news came through, so you must be satisfied with the one announcement which was received last month.

Mr. and Mrs. Frederick R. Faulkner announce the arrival on October 26, 1921, of James Francis, making the fourth of a fine family of two boys and two girls. I am sure that Faulkner has the congratulations of each member of the Class.

The last issue of the REVIEW contained a most interesting article written by P. M. Wiswall of our Class, on his impression of China. To those of us who were privileged to hear Wiswall's impromptu talk at the Class dinner in New York last winter and who saw the beautiful photographs he brought back, the article was doubly interesting. Similar articles or letters from our far away members would be very much appreciated.

The following was received from D. P. Marvin: "The November number of the REVIEW, just arriving, suggests to me that I notify you of my change of address and title. I lost my temporary war rank of Lieutenant Commander September 3, 1921, and on October 6 was retired due to physical disability, and have come to live in Long Beach, California, so my address is now: Lieut. (j. g.) D. P. Marvin, U. S. C. G., (Retired), 2383 Pasadena Avenue, Long Beach, Calif."

1910

DUDLEY CLAPP, *Secretary*, JEFFRIES POINT, EAST BOSTON, MASS.

Herb Cleverdon sends the glad news of the arrival of Robert Newton Cleverdon, November 21, 1921. — Charlie Greene is kind enough to hand us a little news as follows:

"I have just received an announcement of the marriage of Katherine Van Dyke Bangs to our classmate, Karl Fernstrom, on Tuesday the eighteenth of October, 1921, in New York. Thinking this may have been sent to me by mistake in my former capacity of Class secretary, I am sending the news along to you. Incidentally, I note it was mailed in Oakland, Cal., a week after the ceremony."

Your secretary is no longer with the Gorton Pew Fisheries. If present plans go through, he will be established in the business of making sulphonated oils in East Boston by the time this REVIEW goes to press. Location at present unknown.

There would be a decided dearth of material for Class notes but for the enterprise of V. T. H. Bien, Course XIII, who has secured an autobiographical sketch from each member of his course in the Class. Space does not permit the publication of all of these sketches in this issue, but a few of them follow, and the rest will be published later.

It would be a fine thing if we could get such a series of sketches from the whole Class but it would undoubtedly take a great deal of work on the part of several men in each course to accomplish this. Your secretary would appreciate an expression of opinion from his classmates as to the desirability and possibility of getting an autobiography of all the members of the Class.

"*Dear Clapp:* You will remember, now nearly two years ago, that I wrote you that I was going to endeavor to get news letters from the various members of my Class and Course and at the same time I suggested doing the same thing for the whole Class, but judging from the difficulties I have encountered in my own course of eleven men I am not surprised it was not done as a whole Class. I have succeeded in getting letters from every member of my Course, except one, and I am in hopes that I may get that one letter, and in accordance with my promise to you, I am enclosing herewith one set of letters of which you may make such use as you see fit. To me they have proved very interesting reading, and I believe they would to the whole Class. Very sincerely yours, V. T. H. BIEN."

"*Dear Bieny:* 1910, June, returned to Seattle and remained with the Anderson Supply Co., wholesale and retail dealers in cameras and photographic materials, until fall of 1911. September, 1911, went to San Francisco and worked for Pa Leland in San Francisco Bridge Co. as superintendent of their Alameda Yard and built a dredge for suction work on rivers and harbors. May, 1912, returned to Anderson Supply Co. and went to work on the road, where I covered thirty thousand miles by March, 1913. April, 1913, went to Boston and married Miss Gertrude Wilcox and returned to Seattle, where I continued in the Anderson Supply Co. until November, 1917, when I was commissioned in Ordnance Officers Reserve Corps and ordered to Washington, D. C., as First Lieutenant. Served in Artillery Section Carriage Division and Artillery Section Procurement Division, where I finally had charge of procurement of all optical instruments for the War Department, including Signal Corps, Engineer Corps, Medical Corps, Bureau of Aircraft

Production, Ordnance Department, etc. During the fifteen months I was in service I negotiated about twenty-three million dollars' worth of contracts for optical stuff and had a nice time and lots of work. After a hard battle I managed to get out of the Service February 1, 1919, and returned to Seattle on the first train, where I have been ever since. Don't think much of Washington, D. C., and feel sorry for the inhabitants, as there are few worse climates, Boston included. Business is fine with me and while I prefer engineering to merchandising, I can't afford it. Got time, so wrote this instead of waiting.—MAURICE P. ANDERSON, 111 CHERRY STREET, SEATTLE, WASH."

"*Dear Bien:* I am enclosing an outline of my autobiography for your little summary that you propose getting together. Other members of XIII, with the exception of Holbrook, I have lost track of. Sargeant and I kept up correspondence for a number of years, but I have lost track of him now. I may be in Washington sometime in the near future, and if so I shall try and look you up.

Summer of 1910, Assistant with Professor Peabody on the Froude.

1910-11. Assistant in marine engineering, Massachusetts Institute of Technology.

1911-13. With the following concerns: Lake Torpedo Boat Co., Electric Boat Co., Fore River Ship and Engine Co., John I. Thornycroft Co., Southampton, England.

1913-15. Assistant Professor of Mechanical Engineering, University of Maine.

1915-19. Designing Department, Electric Boat Co.

1919. Associate Professor of Naval Architecture, Lehigh University.

In 1912 I married Louise B. Tarbell (Wellesley '12) of Newton Highlands, Mass. We have two children, Lois, age six; and Charles, age two.

Reprint from editorial, January 22, 1920, issue of *Shipbuilding and Shipping Record*, London, England.

'The training of shipbuilders and of marine engineers has become one of the recognized functions of many of our higher technical colleges and universities, but so far as we are aware, no attempt has been made in this country to deal specifically with the training of men to enable them to understand better the business of the operation and management of ships; that is, to enable them to become more efficient in the responsible positions in our shipping offices. It has been left to an American University, the Lehigh University of Bethlehem, Pa., to inaugurate such a course of training, and from the particulars of the curriculum which we have just received, the course seems admirably suited to achieve its object. The "Ship Construction and Marine Transportation" course, as it is called, occupies four years and it combines engineering training and naval architecture with studies in economics and business administration, particular emphasis being laid upon the latter two subjects. It has been planned to develop a class of men who, in addition to a knowledge of conditions governing ocean and inland water transportation, will have a command of the technical economic and financial aspects of ship design, construction and operation. The idea certainly seems to be a very good one, and one which is worthy to be followed on this side. It will no doubt be urged against it that the life in a shipping office will ultimately equip a man to hold the most responsible posts in the shipping business, but it cannot be denied that the intensive college training in ship construction, economics and business administration must prove of immense value to the student and quickly yield results which could only be obtained after many years' work in the office.'

—L. B. CHAPMAN, LEHIGH UNIVERSITY, SOUTH BETHLEHEM, PA."

"On leaving Tech, I went home for a few days, preparatory to going to Newport News. You see I had made my choice to stick to my profession. I started at \$10.25 a week as a ship-fitter's helper. I worked and punched plates and angles all summer in the broiling sun. (One day the thermometer registered 125 degrees.) After a couple of months at this sort of work, I was transferred to the mold loft, where I met several college men, one a 1908 Tech man named Hurd, who was then one of the star men in the loft, acting as assistant foreman. There was one Michigan man and one from Cornell. I never heard what became of them later, but Hurd has remained at the News, and won, I understand, frequent promotion. As for myself I had always wished to get into the navigation end, and having been advised to get some engine room experience I arranged to go as an oiler on one of the new boats that was being sent to New York to be turned over to her owners. It was a dirty trip. I landed in New York with little or no money and without a job or knowledge of where to get one. I was dirty, greasy, sleepy and tired. Not knowing how long my money would have to last before I got a job, I went to the Mills Hotel, where a room, or rather a concrete cell with a cot, a stool and clean sheets, could be had for twenty



cents a night. I could not get into my room until seven p.m., as all rooms are closed during the day. At seven therefore, I went to my room dead tired, and got into bed at once. I dropped off to sleep immediately and was dead to the world for twelve hours. The next morning I went down to the Hudson River and located a job on the S. S. 'El Sud' of the Southern Pacific Company, as an oiler. She was a freighter running between New York and Galveston. I spent about two months on this ship, getting my fill of grease and bed-bugs. I bunked with two other oilers, both old hands at the game, and made two trips. Then the chief engineer into whose good graces I succeeded in getting, by running off a few indicator cards and showing what they meant, advised me to get a job with some steamship company, and as it was near Christmas time, he said that January 1 would be a good time to apply, as that would be the time that changes in the companies' executives would be made. As Christmas was near, and I was thoroughly sick of the grease and dirt, I was only too glad to have such a good excuse to quit. To my surprise all the good jobs were already filled and apparently by capable executives, and after spending in postage all I had saved out of my slender income while cruising at sea, I finally, after two months unrewarded job-hunting, took the only thing that offered — a job as mold-loftsman's helper, at Fore River.

Having been driven back, as it were into ship-building, I determined to dig in and work, and work till I made good and got somewhere, or knew the reason why. I worked hard for four years, remaining in the loft for only about six months, when I was taken out and given a sort of nondescript job, with no particular instructions. I therefore had to find out what I was to do. This job led me to make many investigations, regarding the sorting, recording and delivery of material about the plant (more especially machine shop material) and I was therefore put in charge of what they called the material division. Later I was led to make a report for the manager, urging and outlining a scheme for a planning department, to plan and coordinate all the work throughout the plant, so as to iron out some of the confusion that resulted from lack of proper instructions to department heads as to the sequence of work. This plan was favorably received and partially adopted, and I was given charge of part of the work, and a 1905 Tech man was put in charge of the other, but owing to lack of proper organization and backing by the manager, and general helter-skelter methods, and division of responsibility, that were chronic in the whole plant, the scheme did not pan out well. I may say that when the Bethlehem Steel Company took hold of the plant shortly afterwards, they gradually introduced a similar scheme which they had in operation elsewhere. While my scheme was entirely original with me, it was not new, for I found that the General Electric at Lynn, the Bethlehem Steel, and others had the same or similar schemes in successful operation. I therefore felt very much gratified at the work I had done, though much disappointed at its outcome. So great was my disappointment that I began once more to look for a job. After a year of fruitless effort along this line, I finally decided to do what I had long wanted to do, namely to go into business myself. Lacking capital I had to select something that could be started in a small way and grow. I chose building. I came home to Washington, where I could stay with my parents at small cost, till I got started. It was in March, 1914, therefore that I started what appears to have become my life-work — building. I started in a very small way, very small indeed. My capital was about \$75. I did odds and ends, little repair jobs — one job of some shelves, dabs of painting, etc., for Dr. Harvey W. Wiley, for \$15. About six months ago, he came back and gave me an order for a garage. In June, 1914, I built my first garage at a profit of \$30, which seemed to me the easiest money I ever made. Since then I have built over 700 of them, every kind and description, from 'tin' and frame, up to reinforced concrete and brick. I have had one set-back, 1918, on account of the War, when I prepared to close my business and go into shipbuilding, but before I could get all my contracts completed, the armistice was signed. I started up again in January, 1919. While my business is small, as the building business goes, still it is mine, 'An ill-favored thing, but mine own.'

The volume of business completed each year is perhaps the best indication of what; progress has been made: 1914, \$2,928; 1915, \$16,487; 1916, \$28,618; 1917, \$46,883; 1918, \$31,858; 1919, \$75,000; 1920, \$108,000. While still building garages, I am gradually separating this work to make of it a separate department, and soon will have two departments, a garage department and a construction department. Just now, I have under construction between forty or fifty garages, one small apartment house, two houses and various other work.



In May, 1919, I employed Mr. W. W. Spencer as superintendent, who is about two years my junior and a college man, who had had considerable more experience in building than I had had, and under two of the best builders in the city. I let him take over the construction work. The business began to grow quite markedly, and in March following, that is 1920, Spencer had proven so capable, it seemed advisable to incorporate. We accordingly did so, Spencer buying an interest in the business equal to one-half of mine, and became vice-president and general manager. Since that time we have managed to continue our growth and in the last six months have undertaken, very vigorously, speculative building, along with our other contract work. We are now just completing, and have sold before completion, five new houses, and are starting five more, of which one has already been sold, (another today) and we are rather in hopes that in 1922 we will be able to build and sell at least twenty houses, and unless adverse business conditions appear, I think we can. This work is in addition to our regular contract work, garages and ordinary building.

On November 27, 1915, I married Bertha Conn, of Middletown, Conn., a daughter of Dr. H. W. Conn, head of the biological department at Wesleyan, also a director of the State Board of Health. Mrs. Bien, a college mate of my sister's, graduated from Smith College in 1914. We took our wedding trip in a Ford, in which I shared half interest with my father. Our business now has four *Fords*. We rented in Washington for a couple of years and then built a little house in Takoma Park, a suburb of Washington, near my father's home, the home of my boyhood. We have now enlarged our home somewhat. We have two daughters, Betina Herbert Bien, born in July, 1917 and Penelope Julia Bien, born January, 1920.—V. T. H. BIEN, WASHINGTON, D. C."

"MAURICE L. CHAPIN  
'WHO'S WHO' IN CHAPIN FAMILY

1910 and part of 1911. Stone & Webster, learning how to live on \$15 per week.

1911 and part of 1912. Greenfield Paper and Die Corporation, cost accountant. While in Greenfield organized Minott Printing and Binding Co., with C. F. Minott of Greenfield, becoming treasurer.

1912 to June 1913. Doing cost accounting for P. M. Harrison Associates, and living at times in such lovely places as Norwich, Conn., North Amherst, Ohio (stone quarry) Marietta, Ohio, Wheeling, Va., etc. Some day I am going to write a book on Boarding Houses I Have Known.

1913. Did cost accounting independently with Boston as a base for about a year, (business not too good).

1914, 1915, 1916. Organized 'Clawfoot Co.' to manufacture non-skid tires, winter shoes for horses. This business was located in Springfield, Mass., and was showing some signs of promise in 1917 when the whole works of the thing entered the Army and Navy.

1917, May 19, 4 P.M. Married Edith Dutton of Springfield, Mass. (very important event).

1917, July and August. Entered Ordnance Department of Army as First Lieutenant. Ordered to Washington, D. C., and the less said about my sojourn there the pleasanter for all concerned.

1918, December 17, 2.37½ P.M. Discharged from Army (very salubrious occasion indeed).

1918, December 30. Went to work for A. C. Dutton Lumber Co. and moved entire family to Poughkeepsie, N. Y., where yours truly went to work as a yard hand for nine months, learning every variety of splinter and sliver.

1919, December 13. Presented with second large-sized boy, 'David' (very important event).

1919, December 26. Left wife and babies for a four months trip to the Pacific Coast to learn the mill end of the lumber business. Was mighty glad to get home in the spring of 1920 and *stay home*. While in Seattle saw Ted Geary for a few minutes. Same old Ted. Told me he was going East to show them how to sail the 'Resolute.'

1920 until this writing. Trying to support my family here in Springfield and darn near doing it. It is only at the end of the month that I have any doubts. My present address is Bellevue Avenue, Springfield, Mass., and will be for some years, I guess, at least until the second mortgage is lifted.

Best respects to all."

1911

ORVILLE B. DENISON, *Secretary*, 63 Sidney Street, Cambridge 39, Mass.

JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford 55, Mass.

First of all your secretary wishes to thank the many classmates who favored his "friend wife" and himself with Christmas greeting cards. Now for the tales tolled by the wedding bells. First the following announcement from the *Boston Transcript* of August 17: "At the home of Dr. George Eugene Titcomb, at 7 Sudbury Road, Concord, his daughter, Miss Margaret Titcomb, was married on Monday afternoon to John Alexander Urquhart, by Rev. Benjamin Reynolds Bulkeley of Concord. Only the immediate families of the bride and bridegroom were present. The bride is the daughter of the late Fanny Rodman Titcomb and Dr. Titcomb. Mr. Urquhart, the bridegroom, is a graduate of the Massachusetts Institute of Technology, with the class of 1911. Mr. and Mrs. Urquhart will reside at 12 Sudbury Road, Concord."

Just as November was ebbing away the following announcement was received: Mr. and Mrs. Henry Southworth Shaw announce the marriage of their daughter Eleanor to Mr. Charles Hudson Sayre Merrill on Saturday the twenty-sixth of November, nineteen hundred and twenty-one, The Pines, Milton, Massachusetts.

Twenty eleveners responded to your secretary's request for this year's annual celebration on the eleventh evening of the eleventh month and a fine dinner was enjoyed in the Grill room of the Walker Memorial Armistice Night.

Two classmates who have recently returned to the Hub were enthusiastically received when they rendered an account of their "stewardships" since leaving the State ten years ago. Guy W. True is back from Panama and Suren Bogdasarian from the steel districts in and around Pittsburgh.

Following the repeat the members of the Class of 1911 present repaired to the bowling alleys, except Messrs. Haines and Linehan, who were forced to keep other engagements. The boys divided up into four teams under Captains Pead, Clark, Bigelow and Leary. Pead's Pupils took four points from Clark's Comrades, despite a single string of 45 by "friend secretary" and Bigelow's Bearcats similarly smeared Leary's Leaguers. The scores:

<i>Pead's Pupils</i>	1	2	3	Total	<i>Clark's Comrades</i>	1	2	3	Total
Stewart.....	80	87	90	257	Whitcomb.....	50	56	58	164
True.....	64	75	58	197	Bogdasarian.....	70	68	57	195
Denison.....	45	77	69	191	Herlihy.....	71	87	84	242
Coupal.....	84	88	65	237	Seligman.....	75	80	75	230
Pead.....	96	83	94	273	Clark.....	75	93	72	240
Totals.....	369	410	376	1155	Totals.....	341	384	346	1071

<i>Bigelow's Bearcats</i>	1	2	3	Total	<i>Leary's Leaguers</i>	1	2	3	Total
Loud.....	58	81	64	203	Jenks.....	61	73	76	210
Dolliver.....	81	74	124	279	Comstock.....	51	75	52	178
Cummings.....	85	72	71	228	Leary.....	72	85	73	230
Bigelow.....	52	83	85	220	Young.....	82	75	90	247
Totals.....	276	310	344	930	Totals.....	266	308	291	865

Henry F. Dolliver "connected" for both the high single and high three-string total, but he was awarded but one prize — for high single, the high three-string going to Captain W. J. Pead, Jr., in second place. The consolation prize for low three-strings went to Emmons J. Whitcomb.

The December get-together of the Class took the form of a bridge whist party at the home of Mr. and Mrs. Emmons J. Whitcomb in Reading on the evening of December 6. "Whit" and his wife proved a splendid host and hostess, respectively, and there were four tables occupied. First prizes were won by "Tommy" Haines for the men and "Mrs. Tommy" for the ladies. Those present were: Lloyd C. Cooley and Miss Tracy, Mr. and Mrs. Orville B. Denison, Mr. and Mrs. Thomas H. Haines, Professor and Mrs. Robert T. Haslam, Mr. and Mrs. John A. Herlihy, Mr. and Mrs. Harold G. Jenks, Mr. and Mrs. Walter C. Wilson and Miss Beers and Miss Stevens, house guests of the Whitcomb's.

Our old friend, C. S. Anderson, recently wrote in that the address given as his in the last issue was not correct, and the correct one is given in this month's list of changes of addresses. — "Ken" Faunce writes that he recently had a trip to the middle west and "while there bumped into Bill West, Minot Dennett and Mike Greenleaf. While in Detroit the African dominoes were rolled and Mike got away with fifteen Faunce cartwheels and fifteen of those belonging to Jack Moses, '09. In spite of this I bear no ill will towards the rest of the Class." — Louis Grandgent is now architectural director at Antioch College, Yellow Springs, Ohio. — Roy D. Huxley now holds a professorship in the electrical engineering department of Case School of Applied Science in Cleveland.

Paul Kellogg writes in from Buffalo, N. Y., as follows: "I am attempting that grand and gloriously hard job of attempting to launch my own business at Niagara Falls. If I make good at it I will surely let you know for the benefit of the Class records. Say, it is some job to sell stock this year. If all goes well, I shall manufacture writing pads and tablets, composition books, and such like." Looks good on paper, and we hope it will in fact.

Good luck to you, Paul, old boy! — J. D. MacKenzie is now with the Geological Survey of the Canadian Department of Mines at Vancouver, British Columbia. — R. S. Pease says he is "a little bit off the M. I. T. line as Dormitory Supervisor of the State Institute of Applied Agriculture at Farmingdale, Long Island, N. Y. — A very mysterious announcement appeared in the *India Rubber World* recently about Don R. Stevens having left the Goodyear people in Akron to join a concern in the East. The details did not come out until the arrival of the annual "Stone Age" Christmas greeting card, which boldly announced that he was now with the Okonite Company, manufacturers of insulated wire, at Passaic, N. J. — "Zeke" Williams, sales agent for the National Cash Register Company at Utica, N. Y., recently wrote in for a duplicate questionnaire and in the course of his letter expressed the hope that in the near future he hoped to be able to visit the "Hub" and look in on some of his old friends. Hope you can, Zeke.

Mr. and Mrs. Harry Lester Manley of Passaic, N. J., announce the arrival on Christmas Day of Frederick August Manley. Some Christmas present, Harry!

In closing, your secretary wishes to announce that the Class Book will go to press on or about February 1. You know the answer — if you haven't sent in your questionnaire, W. T. D.

#### CHANGES OF ADDRESSES

Cedric S. Anderson, 4335 Dakota Street, Pittsburg, Pa.; Eldred E. Besse, 7 Oak Avenue, Tuckahoe, N. Y.; John R. Bowman, 35 Glendale Street, Everett, Mass.; William J. Buckley, 7 Tucker Street, Milton, Mass.; L. C. Cooley, 27 Haymarket Square, Boston, Mass.; F. Lester Corts, care W. H. Jackson Co., 335 Carroll Street, Brooklyn, N. Y.; Henry C. Frisbie, 1434 Fuller Avenue, Los Angeles, Cal.; Gardner C. George, Light, Heat and Power Building, Watertown, N. Y.; Louis Grandgent, Antioch College, Yellow Springs, Ohio; Prof. Roy D. Huxley, Elec. Eng. Dept., Case School, Cleveland, Ohio; H. G. Jenks, 197A Washington Street, Salem, Mass.; Cleon R. Johnson, 1508 Preston Avenue East, Akron, Ohio; Paul Kellogg, 48 Fairchild Avenue, Buffalo, N. Y.; Thomas R. Lathrope, State Board of Health, Little Rock, Ark.; J. D. MacKenzie, 510 Pacific Building, Vancouver, B. C.; L. O. Mills, 213 Walnut Street, Holyoke, Mass.; William J. Orchard, care Wallace & Tiernan Co., Newark, N. J.; Capt. T. B. Parker, 7th Engineers, Camp Jackson, S. C.; R. S. Pease, S. I. A. A., Farmingdale, Long Island, N. Y.; Clyde R. Perry, 1 Warwarne Street, Hartford, Conn.; A. C. Pillsbury, 312 Chapman Building, Los Angeles, Calif.; H. L. Robinson, 14 Rhodes Road, Worcester, Mass.; Foster Russell, P. O. Box 27, Spokane, Wash.; D. R. Stevens, 346 North Maple Avenue, Ridgewood, N. J.; H. R. Tisdale, 806 Becker Street, Schenectady, N. Y.; Roy D. Van Alstine, 416 East 9th Street, Long Beach, Calif.; E. C. Vose, 1010 Centre Street, Newton Centre, Mass.; Noyes Weltmer, Box 401, Santa Fe, N. M.; S. C. Willis, 2592 Hamilton Avenue, Detroit, Mich.; F. A. Wood, 223 Cabot Street, Beverly, Mass.

1912

RANDALL CREMER, *Secretary*, 7 The Circle, Rochelle Park, New Rochelle, New York.

F. J. SHEPARD, Jr., *Assistant Secretary*, 568 East First Street, Boston, Mass.

The supply of interesting notes regarding the various members of the Class is extremely limited, as said members persistently neglect to notify the assistant secretary of their whereabouts and doings. As many letters as possible are written to various members of the Class but the number of replies is disappointing. It is rather hard to make up news that looks fit to print, hence the brevity of the 1912 items. If every member of the Class pitched in and dropped a line to the assistant secretary on or before February 1, we will have a good juicy bunch of news to appear in the next issue.

Ran Cremer, I, our genial secretary, is still in the tropics, having been transferred from Cuba to Key West. Rather a disappointing change of location, but still a very comfortable place to winter. He may be reached care Snare & Triest Company, Key West, Florida.

The *Boston Globe* of October 10 has the following to say regarding Carl H. Morrill, XI: "Miss Ruth G. Eagleston, daughter of Mr. and Mrs. Arthur W. Eagleston of 22 Palmer Street, Arlington, eloped to Nashua, N. H., last week with Carl H. Morrill, purchasing agent for a large Washington Street store in Boston, and was married, according to a telegram just received from New York by the parents of the bride, who is a graduate of the New England Conservatory of Music at Boston. The telegram states that the couple are on their honeymoon and ask forgiveness. It is understood that the couple, old school friends, had not seen each other for nearly fourteen years until two months ago, when they met in Boston. Mr. Morrill is a graduate of the Massachusetts Institute of Technology and of Phillips Exeter Academy."

Johnnie Lenerts, VI, is now with the E. A. Abbott Company, engineers, contractors, and builders, at 3 Park Street, Boston. John has not lost any weight and really looks the part of a prosperous business man.

E. M. Mason, who was last reported as being in India, has the following to say from 26 Mt. Pleasant Street, Winchester, Mass.: "Received your printed circular today, so will give you an outline of my wanderings during the past year, which may be of interest. My wife and I started for Calcutta, India, early in September, 1920, first taking a little trip to Canada. Spent a few days in Quebec, Montreal and about a week at Banff and Lake Louise. I have seen many of the beautiful things of nature but to my mind you will go a long way to beat the Canadian Rockies. From there we went to Vancouver, where we took the boat to Seattle and on to San Francisco by train. We left San Francisco October 2, 1920, on a China Mail Steamer bound for Hong Kong. After a ten-days run, stopped at Honolulu, where we spent a fine day swimming and riding surf boards on Waikiki Beach. From there on to Yokohama, Nagasaki and Shanghai. While in Shanghai there was a lunar eclipse and it sounded as though all of China was beating dish pans and setting off fire crackers to keep the dragon from swallowing the moon. At Hong Kong we took a small coasting steamer to Calcutta, arriving there Thanksgiving Day. Learned here that I was to relieve the manager of our office at Karachi, the most northwestern port in India, so set off again stopping on the way at Agra to see the wonderful Taj Mahal, which absolutely is beyond description. Karachi is important in that it is the gateway to northwestern and north central India and is the port from which most of India's wheat is shipped. Climatically it is one of the best cities of India, but not as beautiful as others. There is practically no vegetation because of scanty rainfall. After a few months there I went on a business trip to Peshawar, where I made a side trip up through the famous Khyber Pass to Afghanistan. This trip was one of great interest and if written at length would cover pages. While there, had the misfortune to come down with typhoid fever which ended my Indian career, as after three months in the hospital had to return home to recuperate. A little son arrived while at Karachi and when he was three weeks old we started for America, by way of the Suez Canal, Mediterranean Sea and London. Stopped at many places of interest on the way, but was too near dead to get off the boat. Am still with the Standard Oil Company and expect to go to New York next month."

B. H. Morash, VI, another venturesome member of our Class reports as follows from the California Sanatorium, Belmont, California. From this letter and the preceding one, we would judge that India would be a pleasant place to spend a short vacation.

"The July REVIEW, after going to Calcutta, then to Lunenburg, Nova Scotia, has

finally reached me here. You seem in need of some society notes for the '1912' column. After spending a year in India, and having invaded the north, south, east and west, I was hustled to a hospital in August in Calcutta, and calmly advised by the doctors to get out of the salubrious climate and country of India, as same was not conducive to my health and longevity. I acted on their advice, sailing on the Pacific mail liner 'Granite State,' September 4, for San Francisco. Had a very fine trip back, landing here October 10 at Singapore. I spent a day going around the rubber estates, most of which now claim to be broke. Had three days at Manila, and found some old friends, General Electric men, there. That is the only territory I can find where the U. S. A. flag flies and everything 'wide open' and no 'dry atmosphere.' Could have enjoyed a longer stop, but American boats are not very accommodating in waiting for 'delayed passengers.' One day at Honolulu, and after three visits there, I have reached the conclusion it is the Paradise of the Earth. Have been advised to stay in the sanatorium here for the winter and get completely cured, and not come East now. Have gained twenty pounds since September 4 (date of departure from India). There are quite a lot of Tech men around Calcutta, including Achard, '13, J. P. Fish, '12, just arrived when I got out."

Ken Robinson, II, who has "severed his connection" with the instructing staff at the Institute, has the following to say under the subject of "where I am and why." His letterhead reads Massachusetts Interurban Transport, his motto being, "Hand us the goods and we will deliver them."

"Am here and there, as erecting engineer for the Refrigeration Engineers, Inc., and every few days I get into Boston to sign checks for my own company, whose paper the stenographer is now writing this letter on. Fine English, what? 'A preposition should never be used to end a sentence *with*.' After eight years at the Institute as instructor, I discovered that the young fellers who had been back only one year were to receive only one-hundred plunks less per year than the old ones who were to come back for their eighth and ninth years, and I decided I had been there about seven years too long and so here I is. My partner and I formed our company on September 3, 1920, and I resigned from the Institute on the fourth."

Major Howard F. Clark, I, is now detailed at the Institute in the Department of Military Science. The following gives his history for the past two years: "I have been for two years in the Military Science Department at the Institute, and in charge of the Engineer Unit of the Reserve Officers Training Corps. Each summer I take my students to Washington, D. C., at Camp A. A. Humphreys, Va., for the summer camp lasting six weeks. Present prospects indicate that I will complete my four-year detail at the Institute. In November, 1920, I accepted a commission as Captain in the Corps of Engineers, and turned in my commission as Major, Engineers, National Army, which I had held for eighteen months. My address is 400 Charles River Road, Cambridge."

There appeared in the press dispatches of last September, notice of the death of Frank W. Caldwell, who was killed at Chautauqua Lake while flying. It was stated that Caldwell had formerly attended the Institute, and the *Boston Globe* even showed a photograph of our own F. W. Caldwell, Course II. Fortunately the press dispatches referred to another Frank W. Caldwell, and the Frank that we knew is now living at 835 North Euclid Avenue, Dayton, Ohio. His office address is Airplane Section, Propeller Branch, McCook Field, Dayton, Ohio. He has the following to say regarding his doings: "Replying to your letter of December 9, I can join you in being glad that I am still on this side of the Great Divide. My propeller work here at the field has involved furnishing designs and specifications for the propellers used for the Army and Navy, as well as a great deal of work for outside manufacturers. My propellers have been used on all the world altitude flights here in Dayton and on a great many of the speed records and endurance records made around the country. In addition to the work of designing, we have done considerable research work in developing the method of calculation of the propeller characteristics and developing new types of propellers built of such materials as steel, duraluminum, bakelized canvas, etc., as well as adjustable and reversible pitch propellers. We have also put up a propeller testing laboratory where we make all the whirling tests for the army and navy, and test out all new devices submitted by inventors. I have not been in touch with any 1912 men in the last year or so, with the exception of Priest, who was in the research department here for a while. There were about seventy-five Tech men in and around Dayton, and we occasionally get together for luncheon at the Engineers' Club of Dayton."



Plans for the tenth reunion are gradually being put in shape and the first notices will probably be in the mail before you read these notes. A Boston committee consisting of Morrill, IV, Symonds, II, Lenerts, VI, and your assistant secretary have inquiries out for the best place to gather. It seems at present as though the best thing to do would be to gather at some hotel or club down the South Shore, some time around the middle of June. This location offers fishing, bathing, boating, tennis, golf, dancing and other outdoor sports. We plan to make it a regular old home week and expect every fellow to come and bring his wife, or, if lacking a wife, his "intended." There will be something doing from start to finish, and any one who misses the party will have it to regret the rest of his life. Make your plans at once.

The Alumni office has lost trace of the following and would appreciate advice as to their present whereabouts: William J. Buckley, Course I; last address, Atlantic, Mass. Herbert S. Cummings, Course II; last address, West Medford, Mass. Please advise either the Alumni office or your assistant secretary.

#### CHANGES IN ADDRESS

Major Howard F. Clark, 400 Charles River Road, Cambridge, Mass.; David J. McGrath, Technology Club, 17 Gramercy Park, New York, N. Y.; John D. Shore, 27 Astor Street, Brookline, Mass.; Bernard H. Morash, care California Sanatorium, Belmont, Calif.; Kenneth C. Robinson, Box 2442, Boston, Mass.; William V. Schmiedeke, 74 Lumley Avenue, Fort Thomas, Ky.; John L. Bray, 57 Reeford Street, Mattapan, Mass.

#### 1913

F. D. MURDOCK, *Secretary*, 230 Chandler Street, Buffalo, N. Y.

R. CHARLES THOMPSON, *Assistant Secretary*, 120 Milk Street, Boston, Mass.

No news was received from the Class secretary, might have been our brief comment had it not been for the kindness of Messrs. B. F. Howland, I, and G. E. Leavitt, Jr., II. They send the announcements of births; the former had presented to him a daughter, Rheta, in Hawaii, October 26, and the latter a daughter, Margaret, born November 11. Mrs. Sage presented to "Rusty" a new daughter in October. This, according to Rusty, makes four young Sages, excluding the parents — not so bad from the standpoint of us childless critters!

Ross Sampson, II, has just returned from a two months trip to the Mediterranean, where he visited, among other places, Constantinople, Athens and Smyrna. He stopped off at the latter place to purchase some figs. Ross will say this is a fig story. But news is scarce and fellows in the Class of strong uplift tendencies, like "Hap" Peck, deplore brevity of Class notes, hence the attempt at attenuation.

I am not sure that the birth of another regular Tech baby was announced. The stork visited the home of Dr. and Mrs. Arthur W. Kenney, X, and left a bouncing boy, Stephen. Mrs. Kenney was Marion Coes, one of our co-eds.

Clarence S. Roe, I, sent in the following information with his application for membership in the Alumni Association: "Mrs. Roe and I have a new son, born in November. We now have two future Tech men, Edward Olds Roe for the Class of 1940 and John Woodward Roe for the Class of 1943."

From Calcutta, India, comes the news of the birth, November 16, of Francis H. Achard, Jr., weight seven and one-half pounds.

#### 1914

H. B. RICHMOND, *Secretary*, 73 Harlow Street, Arlington, Mass.

G. K. PERLEY, *Assistant Secretary*, 45 Hillside Terrace, Belmont, Mass.

Luncheon, First Tuesday in Each Month  
Healy's, 642 Washington Street, Boston, Mass.

The secretary and Mrs. Richmond wish to thank the members of the Class of 1914 most sincerely for the handsome mahogany tea wagon recently sent us. It is difficult for us to express our full appreciation of this thoughtful and generous remembrance.



Perhaps it is not generally known by the Class the active interest Mrs. Richmond has taken in 1914 affairs. It has only been through her efforts that the secretary has been able to write the number of personal letters that he has in order to get material for the REVIEW notes. With your beautiful gift before us, we will endeavor to see that 1914 is kept at the front of the Institute classes. The secretary and Mrs. Richmond wish to extend to every member of 1914 a cordial invitation to visit us and see the tea wagon.

The secretary explained in the November issue of the REVIEW why he was unable to devote more of his time to running down news items. He is still pretty well occupied, having spent the four months locating and relocating pictures on the walls, shifting furniture and attending to other similar household duties. But the readjustment period is about over and prosperity is ahead. The next issue should have our full quota of notes — that is, granted, of course, the fourteeners will send in a few items of interest.

Our Boston luncheons were started on November 1. The usual good-fellowship was evident at this luncheon and it was unanimously agreed that these luncheons should be continued each month throughout the coming winter. Those attending the first luncheon were: Crocker, XIV; Perley, VI; Atwood, XIV; Storke, II; Dunn, I; Eberhard, I; Ahern, I; Wilkins, XIV; Adams; Richmond, VI. The second luncheon was held on December 6, and the event was a lively one. Healy's cabaret seemed to have a very enlivening effect on the gathering. Those celebrating were: Adams; Beaudette, VI; Riker, VI; Ahern, I; Sherman, IV; Tallmann, VI; Blakeley, II; Forbes, VI; Atwood, XIV; Perley, VI; Hamilton, V; Hardy, II; Wilkins, XIV; Richmond, VI.

Sousa Brooks is on the job again. Listen to this: "Some time ago you took a crack at we New Yorkers in the REVIEW, about not getting together, saying, if I remember correctly, that there was no spirit amongst us. In order to refute this, let it be herein reported that we have held one successful meeting. On Tuesday, October 4 last, the following met for a luncheon at Ye Ole Choppe House on Cedar Street: J. W. Hines, '14; E. Weller, '13; H. J. Danforth, '14; F. E. Affel, '14; P. E. Waters, '15; A. F. Peaslee, '14; F. F. Buttner, '15; R. E. Leonard, '13; P. B. Owens, '14, and the writer. The next one is to be held on Wednesday, November 2, in Stewart's, near the Woolworth Building, where we hope to have a larger attendance. We dare the Class secretary to come to one of these, if he is ever in town."

Go to it. We dare you to get out a bigger crowd than we can in Boston.

Charlie Fiske has been transferred from the Boston office to the Kansas City office of the General Motors Acceptance Corporation. Because of his absence from Boston, Charlie thought it best for him to resign his representation of 1914 on the Alumni Council and to transfer that membership to the secretary. This transfer has been made. As the secretary was already serving on the Alumni Council as a representative of the Technology Club of West Virginia, he has resigned that representation in order to represent 1914. Here is what Charlie has written about his transfer: "Thank you for your recent letter. I was beginning to wonder if the usual efficiency of the Class secretary was somewhat lacking in the length of time it took to receive a reply to my letter earlier in the month, but I consider you have the best excuse in the world, and instead of offering criticisms I will offer my heartiest congratulations. My mail address during the coming winter will be 4242 Montgall Avenue, Kansas City, Mo. The change which I have just made is in the interests of the same Company that I have been with for two years, the General Motors Acceptance Corporation, and I have come out here to take charge of the Southwest territory as district manager, financial sales department. While this is a new part of the country for me to live in, I believe that I shall find it a very pleasant and profitable experience. I will, of course, miss seeing you and other members of the Class and the alumni, but I am sure you will not find it very difficult to fill my place there."

Our society column continues to be a slim affair. Congratulations are in order, however, to five of our number:

The first is due to none other than Lyman S. Baird, II. The following announcement in reference to Baird has been received: "Mr. John C. Kegg announces the marriage of his daughter, Eunice Pauline, to Mr. Lyman S. Baird, on Tuesday, the sixteenth of August, one thousand nine hundred and twenty-one. Saint Paul, Minnesota."

Bill Warren, II, is next in line for congratulations. The *Boston Transcript* of November 12, contained the following item about him: "Mr. and Mrs. William Henry Warren, who

recently were married, are to make their new home at 30 Park Place, Pawtucket, R. I., after a short wedding trip. The bride was formerly Miss Julia Augusta Archibald, daughter of Mr. and Mrs. George W. Archibald of Lawrence, where at the family home the wedding took place last Saturday. There were no bridal attendants. Mrs. Warren is a graduate of the New School of Design, class of 1918. The bridegroom, Mr. Warren, was graduated from the Massachusetts Institute of Technology in 1914. He is the son of Mr. and Mrs. William S. Warren of Arlington Heights."

The remaining three fourteeners to receive congratulations are: Wilkins, II; Spitz, X; Bates, XI. Each has applied for application to admit a son to the Junior Auxiliary. The entries came close together. The first is from Bates. He announced the arrival of a son on October 14. Bates is still with the Clarksburg (West Virginia) Water Board and is chemist-in-charge. He reports that since the Volstead Act has become a law, the water consumption in West Virginia is increasing very noticeably. Bates' job is to keep the water fit to drink so that there will be no temptation to go into the mountains for other liquids. Only one day behind Bates is Howard Wilkins, with the announcement of the arrival of a son, John Howard Wilkins, on October 15. On November 17, Jimmy Spitz announced the arrival of Seymour J. Spitz, 2d. Apparently the fourteeners are anxious to get back some of the benefits of their contributions to the Endowment Fund, because all of the recent arrivals have been boys, who are candidates for the Institute.

Fourteeners still seem to be willing to take the adventure to start new business propositions. The latest comes from I. Paris, '14. The following announcement was received from him: "I. Paris, for five years a member of the Examining Corps of the United States Patent Office, is now engaged in the practice of patent and trademark law, with offices at the Barrister Building, Washington, D. C. Mr. Paris is a graduate of the Massachusetts Institute of Technology, in the Department of Electro-Chemistry, Class of 1914, and of George Washington University Law School with the Class of 1920, and is a member of the bar of the Courts of the District of Columbia."

We have received a letter from Paris telling of his work in Washington. The following is a quotation from his letter: "My past few years have not been at all as eventful as those of a good many fourteeners. For various reasons Uncle Sam chose to keep me in civies. For the past five years I was patent examiner in the United States Patent Office. The Patent Office, you may be interested to know, serves as a training ground for the patent law profession, of which a good many engineers avail themselves. I served my apprenticeship and am now engaged in the practice of patent law in Washington. During the first three years of my stay in Washington, I observed it changed its colors. From the quiet, sedate, sober, leisurely, and gentlemanly city that it was, it became hustling, bustling, full of color and life and activity. Now its tendency to go back to its former self is interrupted by the disarmament conference and similar occasional events."

Pat Adams is pulling off another new stunt, as usual. This time it is a combination fan and pump for Fords. It is known as the "A. I. D. Airunit." Among his claims are the following: "1. A. I. D. Pumps a Ford tire in less than five minutes, without jacking up the wheel. 2. A. I. D. Aircraft type fan keeps motor cooler. 3. A. I. D. Attached permanent in ten minutes. A wrench the only tool. 4. A. I. D. Saves time, tires and trouble. 5. A. I. D. No gears, no cams, no chains, no noise. 6. A. I. D. Ready, rugged, reliable."

The advertising reads well, and we hope the machine works at least half as well. We recommend that any fourteeners who may have joined the plutocrat class, and are wealthy enough to own Fords, try this out and advise the secretary as to its real merits. It seems natural to see Pat with a new air stunt.

J. W. Horton, XIV, is still doing the Western Electric Company out of a month's pay every thirty days. He has been doing considerable work on the new carrier current systems for multiplexing telephone lines. A rather interesting paragraph from a recent letter is as follows: "Except for Affel, I see very few of the 1914 crowd. Inasmuch as Affel and I are both working on 'Carrier Current' systems, we see a lot of each other. As you may recall, I am in the Research Laboratory at the Western and my chief mission seems to be to develop carrier apparatus to sell to Affel. I believe the American Telephone and Telegraph pays for it, but H. A. does the growling."

S. W. Stanyan, VI, has returned from California where he was stationed at the Los Angeles plant of the Goodyear Tire and Rubber Company of California, and is now installing a production control system for the Farrington Manufacturing Company of

Jamaica Plain.—Jimmy Judge, VI, gets into Boston from time to time. He reports that the paper business is picking up again and things look rosy for the future.—Joe Beaudette, VI, is still displaying a double show window of washing machines, vacuum cleaners, electric irons and other appliances on Federal Street, Boston. Joe reports that while business is not as brisk as it was a year ago, he still manages to take the excess cash away from a considerable number of customers. Joe has the sales idea down fine. Your secretary was rash enough to let his wife look over Joe's display. Before we could get away, we thought that it would be necessary to mortgage everything else we owned in order to pay for the things that Joe was selling us.—Jerry Blakeley, II, who was with the Johns-Manville Company of Boston, is on the lookout for any fourteen-year-old who is building a house. Jerry has everything in the heat insulating line from furnace pipe covering to asbestos shingles.

## ADDRESS CHANGES

R. C. Doremus, II, 2985 Lathrop Avenue, Detroit, Mich.; C. P. Fiske, II, 4242 Montgall Avenue, Kansas City, Mo.; R. D. MacCart, VI, Hotel Hadleigh, 2101 Sixteenth Street N. W., Washington, D. C.; D. H. N. Mayo, II, 1457 Seminole Avenue, Detroit, Mich.; C. W. Olesen, II, 212 Tenth Street, Aspinwall, Pa.; Israel Paris, XIV, Barrister Building, Washington, D. C.; Capt. C. F. Ruoff, XIV, Field Artillery School, Fort Sill, Okla.; F. S. Somerby, I, 244 West 99th Street, New York, N. Y.

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1915

FRANCIS P. SCULLY, *Secretary*, 70 West Chippewa Street, Buffalo, N. Y.

HOWARD C. THOMAS, *Assistant Secretary*, 34 Floral Street, Newton Highlands, Mass.

This month's letter will look like the w.k. Christmas bird after the family and the relations are through dinner and little Willy and sister Sue have been out in the pantry picking on the bones. It has been such a short time since the last letter was written that there has been very little opportunity to gather interesting news. The last REVIEW has only been out two days, so that any results it may bring have not as yet been received. We wish that some of you had to sit down some night, after a hard (?) day's work and get friend wife ? ? ? ? to tickle the Underwood and dash off a letter when you have nothing to say. If you did have to do it we feel sure that you would appreciate any news you might get, so for Heaven's sake turn the other cheek and send us something to write. If you don't send it, we'll have to make it up and then we might get sued for slander and the Class treasury would suffer a dent.

As it is now the day after Christmas, we wish you all a very Merry Christmas and, as you will probably not get this until February, we also wish you a very prosperous New Year, and to be on time for once, a happy seventeenth of March (this is particularly for the benefit of George Tecumseh Rooney and Henry Contractor Sheils). As we said before and repeat with striking emphasis, this is the Christmas season, and we gratefully acknowledge the receipt of cards from several classmates. The first came from South Brewer, Me., and was from Charles A. Blodgett, X. Then from Tulsa, Okla., came one from our old friend "Andy" Wardle, XI. The Class secretary sent us one from Buffalo, and from New York we received one from Mr. and Mrs. Loring Hall. From near-by Somerville, to be exact, a very pretty card came from Mr. and Mrs. George T. Rooney.

Speaking of Christmas, as I believe we were, we met that eminent citizen of Watertown, "Hen" Sheils, I, in Boston, the day before Christmas, and as we were both bent on Christmas shopping he persuaded us to accompany him. Woolworth's was so crowded that we had to go to Raymond's, and what we couldn't find there we managed to pick up (when no one was looking) at Kresge's. I don't think that Henry would have gone to such high-priced stores but he wanted to show me what a sport he was at Yuletide. I hope that his wife doesn't read this because then she'll know where the hand-embroidered handkerchiefs came from. Anyway, I told Henry we'd come over and call some night, and I guess that we'd better go before this gets off the press. Incidentally, Henry said that his daughter, aged two, had received a card from Larry Quirk's, I, one-year-old son. Looks as though the latter were starting out on his father's trail at an early age.

Speaking of young sons, we received a card from Mr. and Mrs. Joseph M. Livermore, announcing the arrival of Richard Stone Livermore, on December 12; 1921, weight, ten

pounds. Dick evidently has a good start and ought to make a good football player if he keeps it up.

Dropping from the sublime to the ridiculous we have some news sent on from Buffalo by the secretary: "Loring Hall, I, came to Buffalo last week and we had a very enjoyable visit. He gets to Buffalo every month or so, so that he is the one man from Course I that I see very much of around Buffalo (Frank sure does think a lot of Buffalo). Both Loring and myself have met Samuel Berkowitz, II, recently.—Sam is president of the Automotive Products Corporation of Hazelton, Pa., and certainly has a most interesting account of the way in which his company has grown. They are manufacturers of piston pins particularly and are evidently doing a very extensive business. I met Sam in Buffalo as he was going through to Flint, Mich., with one of his mechanics. From a very small beginning they have grown until they employ well over one hundred men, and as most of the work is done by automatic machinery, it means that their business is of some considerable size. I have received announcement from Bill McEwen, II, that the population of Wellsville has increased by one. William R. McEwen, Jr., is headed for Tech some day, I presume.—Ned Whiting is still in Buffalo, or at least was here two weeks ago. He expects to get out of the navy, but has not made definite plans as to his next step.—There is not much else to say. I will be home for Christmas and will probably spend a week in Boston and will see you at that time."

Incidentally, Frank's Buffalo address is changed to 1400 West Avenue.

As we said in the previous letter, we sent on behalf of the Class fifty dollars as our share for the assistance of athletics. We have received the following appreciative letter from Allan Winter Rowe, secretary of the Advisory Council on Athletics: "Permit me to acknowledge the receipt of your letter and enclosure of December 12 and to express to you and to the Class of 1915 the thanks of the Advisory Council on Athletics. I can assure you that this contribution is a most welcome one and that it will be of great value in furthering the athletic interests of the undergraduate body. I am, Sir, with the renewed thanks of the Council and of myself, Sincerely yours, —."

You may recall that we decided to send this money and rely on making it up through additional contributions at the time the Class dues are paid.

From G. V. Maconi, I, in New Haven, we have received the following. "*Dear Thomas:* Would you mind putting this information in the next TECHNOLOGY REVIEW? The Technology Club of New Haven will hold luncheons at the Hotel Bishop on Chapel Street on the third Tuesday of each month, 12.10 noon. All Tech men are invited. Our president, Mr. Bradley, appointed me chairman of the committee of three, the other members being Herbert Gfroerer, '16, and Scott Wells, '20. We held our first luncheon on the twenty-seventh of last month (October) and had sixteen men present. We had a fine time and hope to have about thirty men present at our luncheon this month. By the way, I met Professor Gracy a few months ago, and he told me that he is teaching in the Yale Art School. I invited him to all of our meetings. Well, Tommy, I have nothing else to say. Remember me to all my friends in and around Boston. If you ever see Frank Murphy be sure to tell him to write to me. Yours as ever, —."

We picked up our morning *Herald* the other day and on the front page was a thrilling account of how Chet Runels, IV, and another man, while they were riding along the Esplanade near the Harvard Bridge late at night, had rescued a young Tech student who had been held up and robbed. They found him unconscious and carried him to a doctor's office and left him in good care. The only thing that worries us is what Chet, who lives in Lowell, was doing down there at that time of night.

Every time we go to Lowell we always drop in to see Chet to see if he hasn't got some Class scandal and also to see if he hasn't got a job where he can use some of our famous Technical Laboratories Concrete Floor Hardener (we had to get that in somehow!). The last time that we saw him he showed us a letter from George F. Nixon, IV. George is now vice-president of the Worcester Automatic Sprinkler Company at 60 Ellsworth Street, Worcester. Evidently his business is good, for he says: "I am feeling optimistic as to the future and may settle down and get married some day on the strength of it." We hope George keeps his optimism afterwards, the way the rest of us have.

A while ago we met Jack Steere, I, in Boston. Jack had come on from Honolulu to be married to Miss Ethel Louise Kilborn of Malden. This event took place October 29. Jack is stationed with the Thirteenth Field Artillery, Schofield Barracks, Honolulu. We wish Mr. and Mrs. Steere much happiness and prosperity.

In our rambles among the architectural offices in Boston, we ran into Bill Russell (W. S.), IV, who used to live in Marlboro. Bill is now happily married and is in the firm of F. A. Norcross, Architects, 46 Cornhill. Bill has been with them ever since he left school.

We stopped at Wallie Pike's house Saturday to wish him and his family the season's greetings, but found that Waldo was in Boston buying a twenty-pound turkey. You see Waldo has three daughters and I suppose they all wanted a leg. He probably thought that a twenty-pound turkey would necessarily have to have four legs to support itself.

You can see what a terrible letter it makes when you have to resort to personalities like picking on Henry and Waldo to fill up the space. I don't think that Waldo reads the REVIEW so we are safe there, but I'm not so sure about Henry, so please before March 15, when we have to move and the next news closes, let us have some news from the Class. If we have to rely on Course I men entirely they will be accusing us of "Summer Camp Control" again, and we don't want to be unjustly accused.

This morning we received several pages from the "Tulsa Spirit" giving the "Text of the Engineer's Report on Cost of Spavinaw Water." (We don't know what Spavinaw Water is but it is probably water they give horses.) The point of this article is that the engineer or one of them is W. R. Holway, '15, of the Holway Engineering Company, Tulsa, Okla. This is the company that Andrew Wardle joined on his return from his investigation in Greece. The report is quite lengthy and cannot be reproduced here, but it is very interesting reading and shows that Bill and the Holway Engineering Company are right on the job. The estimated cost is \$6,800,000, which gives a faint idea of the size of the work in which Bill is engaged.

This is all we know tonight so we will close with love to all and the usual bunch of new addresses.

Jay Coen (formerly Jacob Cohen), I, 140 East 139th Street, Belle Harbor, L. I., N. Y.; Charles W. Noyes, 1057 Delamont Avenue, Schenectady, N. Y.; Chou Chuan Tseng, The Chinese Electric Co., Peking, China; Ralph E. Curtis, Luzerne County Gas and Electric Co., Kingston, Pa.; George J. Easter, 452 Elmwood Avenue, Niagara Falls, N. Y.; Theodore G. Brown, Automobile Insurance Co., Hartford, Conn.; Frederick B. Barns, 1356 University Avenue, New York, N. Y.; Donald Belcher, care Perin & Marshall, 1107 Broadway, New York, N. Y.; Alfred E. B. Hall, 51 Thomas Street, Portland, Me.; Thomas H. Huff, 4 Greene Street, Ogdensburg, N. Y.; George R. Urquhart, 65 Lafayette Avenue, Hempstead, L. I., N. Y.; Albert E. Sampson, National Aniline and Chemical Co., 113 High Street, Boston, Mass.; Elwin P. Norberg, 6403 Hollywood Boulevard, Los Angeles, Cal.

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#### 1917

HOME OFFICE, 3-208, M. I. T., Cambridge, Mass.

Although considerable time has elapsed since the last issue of the REVIEW, the Home Office has for some days been figuring that, as usual, the REVIEW would be considerate and come out about a couple of months late, thus relieving the necessity for early pressure on the part of the Class Notes scribes. Such does not seem to be the case, the honorable editor of the REVIEW, having taken a new lease of life since the influx of foreign visitors to Boston, has decided that for once the TECHNOLOGY REVIEW is to appear less than three weeks overdue. Consequently, we were this morning the recipients of a curt message, or "bull from the throne," to the effect that copy would get in at once or it would not get in at all. Therefore we depart from our usual custom of furnishing a polished and scholarly account of the many doings of members of the Class and console ourselves by tendering ensuing brief remarks, and by the fact that as usual '16 is worse.

Twenty-four members of the Class turned out for the alumni dinner which was held January 7 at Walker Memorial. This was one of the largest representations that 1917 has ever had at an annual alumni dinner, and, incidentally, was as usual the largest representation from any alumni class at that dinner. A complete list of those present follows: H. V. Chisholm, II; Carlton M. Dean, X; P. A. deMars, VI; B. F. Dodge, X; Atwood P. Dunham, II; H. P. Eddy, XI; Robert Erb, XV; Stanley W. Hyde, VII; Stanley M. Lane, X; C. E. Lansil, VI; H. E. Lobdell, IV; R. E. McDonald, X; L. L. McGrady, XV;



Douglas H. McLellan, IV; T. F. O'Brien, II; D. H. Parker, X; Harold F. Powers, II; J. A. Rogers, Jr., II; L. P. Sanborn, X; R. H. Sawyer, II; Raymond S. Stevens, XV; C. E. Turner, VII; Walter A. Wood, XV; Walter C. Wood, X.

At the dinner it was our pleasure to talk with Jack Wood who told about a cruise made last summer off Nova Scotia, in company with Prof. George Owen, '94, on the "Oriole IV." The boat belonged to George H. Gooderham who is commodore of the Royal Canadian Yacht Club of Toronto, and also is one of the charter members of Canadian Club. A description of the cruise appears in the January issue of *Yachting*. Among other guests were Rear Commodore Sidney A. Beggs of the Corinthian Yacht Club and James McMurray, secretary of the Great Lakes Yacht Racing Union.

Just before going to press we received a note from Frank Crane asking to have his address changed to the City Engineer's Office, South City Hall Annex, Los Angeles, Cal.

Further announcements that Malcolm Brock is continuing as impresario of the Goodyear Auditorium come to us with the statement that he is to present Otis Skinner in "Blood and Sand" next March.

Dad Wenzel has returned to New York although he is still on the staff of Jackson and Moreland as an electrical engineer, working on the New York Edison frequency problem.

As usual we acknowledge our indebtedness to the *Transcript* for the following item concerning C. C. Gager:

"Southern Romance of Local Interest.—Mrs. J. Harry Tyler has announced from her home city, Baltimore, the engagement of her daughter, Miss Grace Kimball Tyler, to Charles Cotter Gager, son of Judge and Mrs. Edwin C. Gager, of Derby, Conn. Miss Tyler is related to the Virginia family of which President Tyler was a member, and also is related to the historian, George Bancroft, of Boston. She is a graduate of Bryn Mawr School, Baltimore, and of Vassar College. Mr. Gager is a naval engineer and a graduate of the Massachusetts Institute of Technology, as he is of Yale. He has many friends and also relatives in Boston."

And in addition the following from the *Boston Herald*: "Mrs. Charles Taft Chapin of Ashmont announces the engagement of her daughter, Christine, to Mr. Edmond Spencer, of Schenectady, N. Y., formerly of Boston, son of Mr. and Mrs. William Whiting Spencer. Miss Chapin is a graduate of Miss Wheelock's school, and Mr. Spencer attended the Massachusetts Institute of Technology, Class of 1917."

The *American Architect* contains the following about Dave Brown: "Announcement is made that George C. Adams, a well-known retired architect of Lawrence, Mass., has resumed the practice of architecture, with David M. Brown as an associate. Mr. Adams was located for many years at 288 Essex Street, but the new offices will be in the Bay State Building. He has resumed business on account of accepting the work of planning the new Masonic temple to be erected on Jackson Street. Mr. Adams planned the local police station, the courthouse, the Colonial Theatre, the Lawrence Street Congregational Church and many other buildings in the city of Lawrence. David M. Brown is a graduate of the Massachusetts Institute of Technology, Class of 1917, and has recently been associated with two New York architects."

While on the subject of architects here is news of another who has joined the teaching profession:

"Dean Ell of the School of Engineering, Northeastern College, announces the appointment of Emil A. Gramstorff, of Lexington, as instructor in mechanical drawing for the coming year. Mr. Gramstorff graduated from the Massachusetts Institute of Technology in 1917 with the degree B.S. He specialized while at college in architectural design. During the war, he was commissioned in the navy, and acted as assistant superintendent of new construction."

Incidentally, the most recent bulletin of the Society of Technology Architects contains some news which concerns 1917 men. R. M. Blackall, '17, is a member of the Alumni Advisory Council of the department and has from the first been active in the work of the Society. D. G. Tarpley was a member of the American Students' Reconstruction Unit which spent last summer in France, sailing toward the end of June. They were distributed into groups of fifteen or more at Verdun, Rheims and Soissons, and the bulletin says as follows of their work:

"They were housed in barracks (which in some instances had other tenants), but they were, on the whole, well fed and suffered very little that would be called hardship.



Their work was under constant criticism by French engineers and architects, and each group was under the control of a chief chosen from the membership of the group. *Mairie, écoles*, and alterations occupied the architects, while the engineers were busy reestablishing property, street and sewer lines, or designing bridges. Alternate week-ends were devoted to traveling and sketching parties which were of great value."

Frank S. Carson, '17, Rotch Scholarship winner of last June, sailed for Europe last November.

C. E. Turner, VII, has been of late interesting himself in the "practical health campaign" described in the following item from the *Independent* of Atlanta, Georgia: "The Malden public schools are pioneers in a practical health campaign in which unusual results are being secured by the application of visual methods stimulating the children to prove the efficacy of hygienic rules. This novel program is under the direction of Prof. C. E. Turner, of the Massachusetts Institute of Technology and secretary of the health and sanitation committee of the Society of Visual Education.

With this live, operating health program real results are quickly apparent. Professor Turner states that in the classes which last year received this health instruction only one-fifth of the children were up to normal weight at the beginning of the school term. By March of that year three-fifths of the class were up to normal. Other classes in the same school, with the same type of children, showed no change. Out of a group of thirty-nine only one child failed to show marked improvement."

As usual, we have a considerable number of new little seventeeners to announce, among others being Mildred Anne Bond, born to Mr. and Mrs. Arthur H. Bond, Tuesday, January 10; Elizabeth McPherson Bell, who has been with the Ken Bell's since December 9, 1921; and Tom Hannah's eight months old daughter. We must severely censor Tom for not sending full dope on this important class news earlier, but suppose he has been so busy with his work at the Parker Mills, Fitchburg, that he did not have time. Along the same line, Ed Tuttle has found the engineering practice of Ford, Bacon & Davis to his advantage during the past year, having gained forty-seven pounds, to a grand total of one hundred eighty-seven. Ed has not yet joined that famous reducing squad in New York, but has been seriously considering it.

A good letter from K. M. Lane in Dayton, Ohio, to the Home Office states in part as follows: "In response to your insistent demands for my past, present, and future doings, I have the honor to submit the following: After General Pershing decided that I was not big enough to play in his army, and several attempts to change his mind were unsuccessful and the exchequer was sadly depleted, I decided to work for my living. After a couple of months of toting the rod and transit in the Hog Island shipyard job, I took advantage of the opportunity to get into the airplane design game, with the Engineering Division of the Air Service at McCook Field, out here in the semi-wilderness of Dayton, Ohio. I stayed with them, learning what makes the airplane fly, until about a year ago I became thoroughly fed up on working for the Government and took a similar job with the Dayton Wright Company. My official title is aeronautical engineer, but my work is chiefly with the structural rather than the aerodynamical design. As to social activities, perhaps there is not quite as much to be said. I have started a basket ball team and have two forwards which I hope to develop into good Technologists. I understand you also have something running around the house besides the fence."

Among recent callers at the Home Office were A. D. Dickson, who is structural sales agent with the Bethlehem Steel Company at 141 Milk Street, Boston, and C. G. Holt, who is going with the Western Electric Co. in New York. Elmer Matthews responded nobly to the comments on his briefness in the recent number of the REVIEW and wrote us such a good letter that we cannot forebear publishing it in full. Correspondence delinquents please take notice. "Not that this letter is intended as any great surprise, but only a continuation of the last which you say, 'took the first prize for brevity.' Well, I might add that some of the nineteen seventeeners might better be brief in their communications rather than remain in the list of 'unheardofs.' But I accept the reprimand and will give you all the facts about myself. Since leaving France I have not seen any of the old crowd. However, I take all the blame for such, as for the last two years I have been almost isolated from the rest of the world, the penalty for living in this small New York town. After spending some time working through the heavy end of the textile business, I am now superintendent of the West Sand Lake Branch, Swansdown Knitting Co. Deac Young speaks of Boston as a 'staid old town.' To me it most certainly would look good in com-

parison with this town of five hundred population. Imagine on my return I will have to solicit the services of some of Boston's traffic squad to guide me safely across the street. Yes, I am married, such event taking place two years ago, but I can't make any such announcement as that sent in by Capt. and Mrs. Frank B. Hastie. Now I'll hang up this pen until the Home Office sees fit to give me another call."

Dick Loengard sent us a real "Honest to Gosh" letter on his return from his trip abroad. Among his other experiences — but we'll let Dick tell it himself: "My trip took me to Paris for ten days, and to London and Germany for a week each. I was in Germany at the moment when the mark began its wild descent, and as a result found that an American could live for almost nothing, and it was very easy to find some very beautiful and useful articles which could be bought for a song, to say nothing of a dollar. Conditions for the Germans themselves are very unsettled. The workers and every one in business find little difficulty in earning enough to be able to exist, but people living on incomes and fixed salaries are in a bad way, and living conditions for them are getting worse. There is generally a fatalistic attitude and everybody lives only for today, and lets tomorrow take care of itself. They cannot well do otherwise. This seems to hold true of all Europe — everybody seems to pin their faith on the outcome of the Disarmament Conference, and if no satisfactory result is achieved I am afraid it will have an unfortunate effect, for people will think that if this conference failed to accomplish anything, no other conference will succeed."

We are happy to be able to publish at last a testimonial of the catalytic effect of the Home Office, although we are sorry to say that it drove Nig to poetry, if not to other Canadian failings, to express it to us: "Just been reading the last REVIEW and believe me it sure is great to read all about the gang. In reading over the list of the boys who have 'signed up for life,' and especially getting cards from Bob Moulton and Edgy Polley, announcing the birth of a daughter and son, respectively, it reminds me of one of Drummond's poems (French Canadian) in which he says in the last stanza:

'So all you woodscow sailor man  
Tak' warnin' by dat storm;  
An' go an' marr-ee-a som' nase French girl  
An' leeve on wan beeg farm . . .'

I am reed on de las' REVIEW lots talk 'bout de man shees not com' 'cross wid de monee for de REVIEW. Sapree shees mak' mee 'fraid dat I am not sign up me. Eef dats so plees hurry-em-up to me de bill fur all de one I am ow' cos' shees de mos' bes' book on dee Marquette. He an' I don' wan' to be 'out of luck.' Me — as de Yankee say — me — I don' sleep som' mor til I am heer from you combien I ow'. Bien a vous, Nig."

How about some more good dope for the next REVIEW? If they are going to hold us up to the actual date of publication, we hope that everybody will get busy now and send us that belated line, so that we can continue to maintain our established ascendancy over the adjacent even numbered classes.

In response to discussion concerning the five-year reunion due this year we have received just one letter expressing an opinion about the matter. Here is an extract written on the stationery of "The American Appraisal Company" from Tulsa, Oklahoma, and signed "Dick Whitney": "Just received my copy of the TECHNOLOGY REVIEW; it having reposed for some time at the Ketchum Hotel here, a very antiquated address. Be good sports and see if you can't get my correct address on file. It is given in the letter head above.

Your delirious remarks concerning the American Appraisal Company were noted with scorn. Imagine any one being so ignorant and archaic that he does not know and recognize a nationally known organization which has served repeatedly the largest and foremost concerns in our great land. Glimpse at the enclosed list of 'Leaders of Industry' and feel properly ashamed of your foolish remarks. (See advertisement section for list.)

Concerning the Fifth: Whoever promulgated the idea of a September, instead of a June reunion, had the correct idea and I am most heartily for it. For those of us who have not yet reached the point in life of that of our beloved classmate, A. K. Althouse, one slender vacation is all that we can accomplish, and if you ever had the misfortune of living through an entire summer in this portion of the country, the idea of taking your vacation after it is over, instead of before it begins (summer, I mean) would appeal mightily. So put me down as being heartily in favor of September."

## ADDRESS CHANGES

Charles A. Abels, 256 Garfield Place, Brooklyn, N. Y.; Hamish Allan, 6 West Heath Drive, Golden Green, London N. W., England; James W. Anderson, 12013 Cromwell Avenue, Cleveland, O.; Lieut. Edwin F. Barry, Camp Lewis, Washington, D. C.; Morris M. Brandegee, South Clinchfield, Russell County, Va.; Capt. Arthur R. Brooks, Field Officers' School, Langley Field, Hampton, Va.; Edward L. Clark, care International General Electric Co., Shanghai, China; Stanley K. Cooper, 723 Fellsway, Medford, Mass.; Charles C. Gager, 49 Atwater Avenue, Derby, Conn.; Edwin J. Grayson, 1791 Lanier Place N. W., Apartment 44, Washington, D. C.; Leander H. Hills, 411½ Fitzhugh Street, Bay City, Mich.; Fred A. Hoyt, Jr., 8 Langmaid Avenue, Somerville, Mass.; Leon Keach, American Academy, Rome, Italy, care American Express Company; William T. Johnson, Jr., Dairy Division, Bureau of Animal Industry, Washington, D. C.; Joyce R. Kelly, Western Electric Company, 195 Broadway, New York City; Richard V. Lowe, 31 St. Albans Road, Boston 17, Mass.; Richard T. Lyons, Apartado 164, Maracaibo, Venezuela, South America; Stephen S. Mason, 55 Jackson Street, Pawtucket, R. I.; Howard S. McQuaid, Edgewood Arsenal, Edgewood, Md.; Capt. Walter L. Medding, 1003 Park Street, Rollo, Mo.; Willard B. Newell, Savannah Electric Co., Savannah, Ga.; Harold H. Perry, 410 Green Avenue, Bay City, Mich.; R. Augustin Pouchain, 4330 Pine Street, Philadelphia, Pa.; Harold J. Quilhot, 601 Edison Building, Detroit, Mich.; William H. Sandlas, 2909 Ridgewood Avenue, Baltimore, Md.; Robert H. Scannell, Technology Club, 17 Gramercy Park, New York City; Samuel Siegel, Tracy & Siegel, 258 Washington Street, Boston, Mass.; Leo H. Tracy, Tracy & Siegel, 258 Washington Street, Boston, Mass.; Ross A. B. Whittier, care Lee, Higginson & Company, 44 State Street, Boston, Mass.

## 1918

JULIAN C. HOWE, *Assistant Secretary*, 551 Tremont Street, Boston, Mass.

After our fair start in the November issue, we were really going to put 1918 on the map this time, until a horizontally inclined wisdom tooth put the assistant secretary as well as his good intentions flat on their backs for two weeks and prospects did look dubious. However, we staged a last-minute corral of the best dope stands and, thanks to them, are able to say quite a little about our worthy (or unworthy) classmates. We hope, in the near future to have a news organization which will supply up-to-date news automatically from all over the country — that is our aim, and with every man in the Class doing his share, we will attain it. Our plan is this.

We are going to make one man in each course responsible for turning in a certain amount of news from the others in his course each quarter, the amount to be regulated in proportion according to the number of men in his course. That puts the responsibility of getting news from that group right on his shoulders, and with competition between courses there ought to be no trouble in having our section full of snappy news items each issue. If one or two courses are using all the space, whose fault will it be? The fault of those under secretaries who have been laying down on the job, and not giving their course-mates a square deal.

This may look as though the assistant secretary were passing the buck. If anyone thinks this to be the case, that job is open to him in a minute, for the assistant secretary is just as busy as anyone else, and there is no reason why the work should all be up to him, when, if divided among fifteen, their individual share would not be irksome in the least. Several fellows have suggested some such scheme as this already, and we are looking for criticism from a larger number. Write in to the assistant secretary and tell him what you think of it, whether you approve or not.

Another thing — the assistant secretary is starting a card catalogue of live news about each fellow in the Class, and a little later he wants men to write in and ask about so and so — "Where is he? what is he doing in business, engineering, matrimony, etc." All the *new* news will go into the REVIEW as we get it, but we want a living record of each man — news from him *every little while*, so that we can tell any classmates about anyone else by referring to that card catalogue. If you don't want to be called a "dead one," let us hear from you and know you are alive. We can't tell your friends you are alive if we haven't heard from you for years. Now for some news.

Mal Eales came through with some news in wonderful style, in response to my letter, and it looks as though Course VI were in for blood when it comes to competition between courses — he having beaten the gun in fine style. It is up to the rest of the Class now, to come through in like manner, and the Class notes will be well worth reading.

Mal Earles writes in part as follows: "Bill Costelloe, VI, is down here with the American Telephone and Telegraph Company as are Jack Kennard, Ed Little and myself. All of us being disciples of Professors Jackson, Lawrence, Laws and Company and still following the electrical profession. Bill is in machine switching and Jack in cable development with the development and research department while I am in transmission maintenance work in the operation and engineering department. (Looks like they ran the company between them. I wonder what they really do?) Bill is married and has two youngsters; Ed also married has one. I believe Bill's oldest comes close to being the Class baby, having been born in the early part of 1919. (There's your chance, proud daddies, get in there and bust up their claim to that distinction if you can't beat 'em elsewhere.)

Charlie Gray, VI, is with the Western Electric Company on the development of transmitters and receivers. Bill Foster, VI, is selling Packard trucks. Herb Larner, VII, is health officer for Montclair and is busy cleaning the microbes out of the town, if there are any. (Sure there are. Why question it?) Art Hamilton, II, is in the steel business here. Ed Longley, I, and Walt Robinson, I, are in East Orange with the Lock Joint Pipe Company, the former being secretary of the firm. (How these boys do prosper; or is it successful bluff?) Fred Lane, VI, is in Jackson, Mich., with the Consumers Power Co. there. Al Murray, VI, is with John Hays Hammond at the Cruft Laboratory in Cambridge on radio research work. George Elz, VI, is in Maine in consulting hydroelectric work. Bob Grohe, VI, is with the Factory Mutual Insurance Company and gets down this way occasionally. Oliver Freeman, VI, is also with the above outfit. "Pussyfoot" Dagnall, the "Pride of Martha's Vineyard" and of the Dorms when the Course VI crew lived there, has recently become engaged to a Miss Veda B. Jones. Here's wishing them all kinds of happiness. I can recommend it most highly I guess. (Why does he guess? Is he or isn't he?) Daggie is teaching at Cornell again this year. George Macheca, II, is studying business administration at Harvard during the lack of activity in the industrial world. (Wise boy!) Mike Adams, VI, is in India with the Bemis Bag Company. Johnnie Tipton, VI, is with the Tennessee Power Company. E. R. Harrall, I, is with the Western Union here. Dick Harrington, VI, was with the General Electric Company at Schenectady the last I heard. Charlie Johanson, VI, is in Boston with the American Telephone and Telegraph Company. Ed McNally, II, is in Indianapolis with the Allison Experimental Station. John Parker is with one of the power companies around Buffalo. I saw Charlie Tavener some time ago, but don't remember just what he was doing. (Some newsy letter, the assistant secretary wishes he had a dozen.)

Do any of the crowd ever go to the Tech Club Smokers? I dropped in one evening and the only fellow I saw that evening that I knew before was Oscar Mayer, '19. I used to think I knew a lot of fellows back in the days of the Stute, but most of them were conspicuous by their absence that night. I have been thinking of getting the '18 crowd down here together some night. You might pass the word along so that the other fellows who are down here and whom I haven't run into will be able to get in touch with us. My telephone is Cortlandt Official 60, Extension 1023.

This is about all the dope I have on hand at the present, and I regret that I haven't more first-hand information. Will try to write later and give some extracts from letters I have received as well as some new addresses. Sincerely,

MAL EALES."

Bill Wills certainly has the right idea as shown by the way he starts his letter: "*Dear Howe:* It must be about time for another REVIEW to come out, and although news is rather scarce at the present time I will send along all that comes to mind. I met Jerry Guiranovich today and he tells me that he is just opening up an office with Coleman, a '19 man with whom he intends to do sales engineering work. They have the agency for reinforcing bars, engineering instruments, etc. I understand that Max Seltzer has an office in the same building, i. e., 8 Beacon Street. Max is doing chemical engineering. I saw Norman Hamilton on the train a week or so ago. He is living here in Melrose, is married and has a daughter a year and a half old. He tells me that the Howard brothers are doing well, Alan being industrial engineer with Lever Brothers and Paul Works Manager for Peter F. Gray Company. Both of these firms are located in Cambridge.

He says he thinks that Arthur Johnston is still with the Newport News Shipbuilding and Dry Dock Co. at Newport News, Va.

Bumped into Alfred Grossman on the way up to the State House last week. He is with the Highway Commission and is still single. He says that Kilgore is there in the same department. Made an extended call on Maggie Magoun at the State where he is teaching naval officers the intricacies of ship design. He is working to get his M.A., is married and has a charming daughter almost two years old. Jellison has been teaching for the past two years and is now back at the State working for his M.A.

Mike Flett is with the Atlantic Dye Stuff Works at Portsmouth, N. H. This is the same firm he has been with for some time, but the concern has just moved from Whitman to Portsmouth. Harry Coyne is with the Standard Oil Co., in the sales department. (The assistant secretary sat with him during Harvard's part of the Y.-H. game — what a slaughter!)

Ken Reid is so far behind in his correspondence that he has given up his long letters and is writing short, newsy notes, so he says. I haven't even seen one of the notes so I can't give you any news of him. I did get a nice card with the season's greetings, though.

Well, I hope you had a pleasant Christmas and that I have a new typewriter ribbon before the next time." (I'll supply the ribbons, Bill, if you'll keep on your good work.)

The assistant secretary had the heavy losses of the Great War brought very close to home when he attended the funeral in Winchester, Saturday, December 18, of Lieut. Chester Tutein, '18, who died as the result of an aeroplane accident in France soon after the armistice was signed. Among several other Tech men present was John Damon, '18. Johnnie was looking well and seemed to be prosperous, although he certainly did berate the condition of business when it comes to selling storage batteries.

We saw Steve Hoyer a while ago, and at last we have a Math teacher arising in our midst. I marveled at his courage (or should I have said *nerve*?) and he said, "Oh well, remember, prep school math is one thing and Calculus another." He was teaching at the time at Boston Prep School, after leaving his shipbuilding job at Hog Island, Philadelphia.

Walt Biggar has been having a hard time of it, having been laid up for a month and a half with some nervous trouble. Previous to his illness he was located with James H. Fuestes & Co., Hydraulic and Sanitary Consulting Engineers, 140 Nassau Street, New York City.

D. L. Starr writes very briefly from Darien, Conn., but he sent his business card so I am going to make the most of it. He goes by the title of sales engineer for the Consolidated Expanded Metal Companies, 537 West 35th Street, New York City.

J. W. Gustavson sends in a picture of "the prize baby of the Class of 1918" and challenges all comers.

Bob Van Kirk writes as follows: "I am permanently attached to our Providence office now, but am out a good deal of the time, doing sales and demonstration work." He refers to the Providence office of the E. I. du Pont de Nemours & Co., and is particularly interested in the paper end of the business.

We are indebted to the *Transcript* for the following item concerning Earl I. Stewart, '18, XV, printed October 22, 1921: "A romance of the late war became known to Wakefield and Greenwood friends of Earl I. Stewart of Greenwood, when he, yesterday, introduced his bride, formerly Mlle. Louise Leroux, of St. Nazaire, France, whom he crossed the seas to claim, after a romantic courtship during the conflict abroad. Mlle. Leroux was the first young woman he saw when he debarked from the transport, after he had gone across with the engineers. There was a mutual attraction and during the fighting Mr. Stewart went to St. Nazaire from the front lines when he could do so. After the war, he studied for a time in France and then returned to complete at Massachusetts Institute of Technology the course interrupted by his enlistment. He was graduated last June and immediately returned to France, where he had to overcome parental objection, because the marriage would take the bride to a strange land. The ceremony took place in France and since then the young couple have been touring England and Canada and have just reached Greenwood, the bridegroom's former home, where they will spend the winter at 44 Madison Avenue, the residence of Mr. and Mrs. James A. Wilson."

Again we quote the *Transcript* of November 22, regarding Henry E. Richards, '18, VI: "Henry E. Richards, a graduate of the Massachusetts Institute of Technology, has



been appointed an instructor in electrical engineering at the School of Engineering, Northeastern College, to take up the work of Prof. P. W. Durkee, who is forced to leave the college on account of his health. Mr. Richards received his degree of Bachelor of Science in electrical engineering from Technology in 1918. He entered the United States Navy and received a commission as an ensign. He has been engaged in various departments of the General Electric Company in Lynn for the past three years."

We have the following clipping from the *Worcester Telegram* concerning Lieutenant Aldrin, '18, II: "Lieut. Edwin E. Aldrin, former Worcester resident and one of the founders of the Air Service Engineering School at Dayton, Ohio, is now on a three-months' leave of absence in Europe studying aeronautical activities in Germany, England, France and Italy. He is to report at San Francisco, January 5, 1922, for transportation to Manila and Philippine Islands, where he will act as assistant chief of air service. Lieutenant Aldrin is well known in Worcester, being a brother of Andrew G. Aldrin, an instructor at South High School. Lieutenant Aldrin was educated in the Worcester public schools and graduated from Clark University in 1915. In 1917 he received the degree of Master of Science from Massachusetts Institute of Technology, where he afterward was an instructor in aeronautics. On October 26, 1917, he was commissioned a second lieutenant in the Coast Artillery Corps of the regular army. On June 25, 1919, he was commissioned a first lieutenant in the Coast Artillery Corps. He is an associate fellow in the British Royal Aeronautical Society and a junior member of the Society of Automotive Engineers. He is also secretary of the Aeronautic Division of the American Society of Mechanical Engineers."

Here is a clipping that several have probably noticed already, but we will reprint it so all may read it. It announces the wedding of Ed Newton, '18, VI. Here's luck to you, Ed, and may you enjoy all happiness from now on.

From the *Transcript*, November 19, 1921: "At the town residence at 22 Brimmer Street of Mr. and Mrs. Albert Sargent West, their daughter, Miss Helen West, is to be married late this afternoon to Edwin Meade Newton of Little Rock, Ark., son of Charles H. Newton of that Southern city. Miss West's engagement to Mr. Newton was announced in May of last year. She has attended private schools in Boston. Mr. Newton is a graduate of the Massachusetts Institute of Technology, Class of 1918. He was in the Seventy-First Coast Artillery, in the World War, and served for more than six months overseas with his company. Rev. Paul Revere Frothingham, D.D., minister of Arlington Street Church, is to perform the marriage ceremony this afternoon, at which Mr. West will give his daughter in marriage. She is to wear a conventional wedding gown of white satin made with full train and trimmed with fine old family lace. Her veil will be of tulle, arranged with orange blossoms. Miss Janet Robertson of Milton is to be maid of honor, wearing a gown of silver material, and Miss Ruth West of Jamaica Plain, a cousin of the bride, will be bridesmaid. She is to wear orchid-colored taffeta. Charles H. Newton, Jr., of St. Louis, Mo., brother of the bridegroom, is to attend him as best man, and at the reception to follow the ceremony Kinsley V. R. Bey of Wellesley Hills will have charge of the ushering. Mr. Newton and his bride will make their home in Wellesley Hills."

The following may serve as an inspiration for more than one '18 man during this depression. We quote the *Hartford Courant* of October 3, 1921. Concerning Ralph Crosby, '18, II:

"Mr. and Mrs. Ralph J. Crosby, who have just returned after a year in France, declare that the factories there are all running ten hours a day, with plenty of work for everyone, and that rapid steps are being made toward the reconstruction of the devastated regions. Mr. Crosby is a graduate of the Massachusetts Institute of Technology and served in the Naval Reserve during the war."

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1919

E. R. SMOLEY, *Secretary*, 55 Hanson Place, Brooklyn, N. Y.

P. D. SHEELINE, *Assistant Secretary*, 55 Magazine Street, Cambridge, Mass.

By the time this issue goes to press, the alumni banquet in January will have been completed and the Class of 1919 will have been well represented. Now that Christmas and New Year's are gone and forgotten (?) we should attempt to have as many



get-togethers in various parts of the country as possible. The gang in New York is planning a blow out some time in January, the details of which will probably come out in the next issue and we are in hopes that by this time the New England Section and Mid-Western Section will have had similar get-togethers.

In this REVIEW we are completing the list of names and addresses and information obtained from the letters and cards sent out before the November issue of the REVIEW. Those who have not sent in their cards as yet, please do so at once or, if the cards are lost, send in the equivalent information. We are at present keeping these records in file and are keeping what we consider the live percentage of the Class, in other words, that part which answers inquiries, in a separate part of our file. Let's help make this one hundred per cent of the Class.

The finances received from the recent campaign for dues have not as yet been tabulated but we will have a treasurer's report for inspection in the near future.

Ellwood H. Aldrich, 844 North Church Street, Rockford, Ill. Business address, Wisconsin Rapids, Wis. City Engineer. Not married. "Left school June, 1918, before finishing to enter army. Private C. A. C. Fort Warren, 2d Lieutenant, C. A. C. With American Bridge Co. 1918-19. Entered University of Illinois, 1919, finished B. S. in Civil Engineering, 1920. City Engineer of Wisconsin Rapids since June, 1920. Member A. A. E."

Fred P. Baker, 60 Kirkland Street, Cambridge, Mass. Business address, Massachusetts Institute of Technology. Instructor at Tech. Married.

Reo E. Beaulieu, 526 Summer Street, Holyoke, Mass. Business address, Room 357, 470 East 161st Street, New York City. Superintendent. "Worked a few months for the Western Electric Company, then accepted position of superintendent for the Special Service Flooring Corporation of New York City with whom I am still connected."

Ethel M. Benedict, 150 West 91st Street, New York City, business address, Presbyterian Hospital, New York City. Assistant in medicine.

J. Elliot Cannell, 6 Foster Street, Everett, Mass. Business address, 20 Chelsea Street, Everett. Electrical contractor. Married.

J. M. Carter, Jr., 700 Hickory Street, Texarkana, Ark. Business address, Factory Street, Texarkana, Texas. Assistant superintendent, Liberty Cotton Oil Co. "In army till 1919. Worked in Mesa, Ariz., in 1919 in cotton gin. Have been in cotton seed oil milling, mechanical work, since 1919."

Frederick E. Clafin, 15 Park Street, Marlboro, Mass. Business address Dennison Manufacturing Co., Framingham, Mass. Married. "From school to army aviation 1918. Assistant to manager at Lapointe Machinery Tool Co., Hudson, Mass., 1919-21. Dennison Manufacturing Co., Planning Division, 1921."

Edith Clarke, Constantinople College, care British Military Post Office, Constantinople, Turkey. The following is received from a friend of Miss Clarke: "She began working for the General Electric Company at Schenectady. Established a computing department for Turbine Engineering, which utilized girls with a high school education, for calculating the ordinary engineering problems. On June 11, 1921, she sailed for France, spending a month at the University of Grenoble studying French. She went on to Italy, through Switzerland and the Riviera, sailing from Brindisi, Italy, for Constantinople on September 7. She has a year and a half leave of absence from the General Electric Company, and will teach physics to Turkish girls at Constantinople College."

Bernard S. Coleman, 30 Eliot Street, Boston, Mass. Business address, Box 208, Little Falls, N. J. Chemist and bacteriologist. "Enlisted in C. A. C. immediately after graduation. Discharged at Fort Monroe, December, 1918. Private assistant to the late William T. Sedgwick, Professor of Biology and Public Health at the Institute. Appointed chemist and bacteriologist of the Montclair Water Company, Little Falls, N. J., where I have been since February, 1919."

Laurance M. Dalton, 30 Deering Street, Portland, Me. Business address, Milton, N. H. Plant engineer, Standard Sand and Gravel Co.

L. S. Edgarton, 455 South 4th Street, Fulton, N. Y. Chief engineer, Marine Engine Department.

Horace W. Denison, 50 Capen Street, Stoughton, Mass. Business address, J. W. Wood Elastic Web Co., Stoughton. Married.

G. G. Fleming, Fort Harrison, Ind.

Robert P. Hackett, 108 Corey Street, West Roxbury, Mass. Business address, 18 Goodhue Street, Salem, Mass. Mechanical engineer.

Daniel C. Hall, 36 Henderson Street, Arlington, Mass. Business address, Box 68, Capron, Va. Principal of Capron High School. "Left June, 1918, after completing three years. Worked for Scovill Manufacturing Co., Waterbury, Conn., for one and a half years on war work as chemist. Left January, 1920, to go to New Jersey Zinc Co., Palmerston, Pa., for position there along with other M. I. T. 1919 men. Stayed in 'Lehigh Valley' until December, 1920. Business conditions caused enforced lay off. January, 1921 to April, 1921 worked in Malden, Mass., as chemist for Eastern Metal and Refining Co. April, 1921, to September, 1921, United States Bureau of Standards as chemist at Washington, D. C. Now at Capron, Va. Married September 2, 1921, only a month ago."

Lewis E. Hartman, 442 North Duke Street, Lancaster, Pa. Business address, 23 West Chestnut Street, Lancaster.

Frank Clark Hoyt, 1926 Rowley Avenue, Madison, Wis. Business address, University of Wisconsin, Madison, Wis. Department of Physics. Instructor in Physics. "Teaching at Tech for two years. Teaching at Leland Stanford Jr. University, Palo Alto, Cal., for one year."

Charles W. Hyde, 18 Brimmer Street, Watertown, Mass. Business address, 15 Ashburton Place, Boston, Mass. Public accountant. "Spent a year and a half on Pacific Coast doing accounting work after leaving service. Working for Cooley & Marvin Co. of Boston, past year and a half."

George A. Inglis, 97 Cambridge Street, Fall River, Mass. Business address, Witteman Aircraft Corporation, Hasbrouck Heights, N. J. Aeronautical designer. "Seventeen months in United States Air Service. After discharge spent six months at Squantum Shipyard as 'outside machinist.' Spent six months in engineering department of Curtiss Engineering Corporation at Garden City, L. I. Then went with the Edison Phonograph Works in Orange, N. J., as cabinet designer one and a half years and I am now back in aeronautical work with the Witteman Aircraft Corporation in New Jersey for the past seven months."

Rogers B. Johnson, Cincinnati, N. Y., Business address, Massachusetts Hall, Cambridge, Mass. Assistant to Inspector of Grounds and Buildings, Harvard University.

Scott Keith, 20 Hartford, Newton Highlands, Mass. Business address, 14 Beacon Street, Boston, Mass. Assistant engineer, Metcalf & Eddy. "September to December, 1918, intensive naval architecture at Massachusetts Institute of Technology. January to June, 1919, ships draftsman, Cramp Brothers, Ship and Engine Building Company. July, 1919 to June, 1920, assistant civil engineering department, Massachusetts Institute of Technology. June, 1920 to date, Metcalf & Eddy. August 27, 1921, married."

Max Knobel, Allen Street, Walpole, Mass. Business address, Massachusetts Institute of Technology. Instructor of Physics. "Received M. S. from Stute in 1919 and Ph.D. in 1921. Have been teaching Physics at Stute for last two years and will do so another year. Also electrochemistry."

W. Roy Mackay, 19 Batavia Street, Boston, Mass. Business address, Davison Chemical Co., Baltimore, Md. Engineering Department. Married. "1918 to 1919, instructor of physics, Georgia Tech, Atlanta, Ga. 1919 to 1921 Fosmrite Firefoam Co., engineering department, New York City and Cleveland, 1919, Kansas and Texas oil fields March, 1920 to March, 1921. September, 1921 to date, Davison Chemical Co."

Harold F. Marshall, 85 Orange Street, Brooklyn, N. Y. Married.

Warren A. Maynard, 1632 University Avenue, New York City. Business address, 218 Washington Street, New York. "Newport News Ship Building and Dry Dock Company, September to December, 1918. Industrial engineering with two firms in New York City, December, 1918 to June, 1920, except for three months interval with Chase National Bank, 1919. June, 1920 to date with my father in fruit importing business. Married September, 1920."

R. A. Montgomery, 527 West Capitol Avenue, Springfield, Ill. Married. Business address, Springfield Paving Brick Co., Springfield. Superintendent of plant. "Taught school one year, then entered the army. Stationed at Astoria Detachment, Long Island, at the charcoal plant. Worked for New Jersey Zinc Co., Palmerton, Pa., as investigator on zinc oxide and refractories, two and one half years. Commenced September 1, 1921, as superintendent of Springfield Paving Brick Co.'s plant. Our slogan: "Vitrified Brick for Permanent Roads."

Kuantao-Tsufan Lee, 59 Seymour Road, Shanghai, China. Business address, 12 Quaide France, Shanghai. Assistant manager. "Joined American Bridge Co. and worked in Elmira Plant until middle of 1919. Came back to China in July, 1919. Joined Han Yeh Ping Iron and Coal Co., Ltd. (largest corporation in China) as assistant mechanical engineer, August, 1919 to April, 1921. Various activities till September, 1921. Joined the China Trading Trust Co. as assistant manager taking charge of engineering department since September."

Gustave Levy, 2866 Boulevard Street, Jersey City, N. J. Business address, Universal Specialty Co., 15 Whitehall Street, New York City. Partner.

Robert R. Litchiser, Eaton, Ohio. Inspector, State Highway Department.

T. Morse Lloyd, 949 Ogden Avenue, New York City. Business address, 463 West Street, New York City. Junior engineer and technical writer.

A. L. Muller, 263 East 19th Street, Brooklyn, N. Y., architect. "United States Army Gas Defense. Draughtsman for George B. Post & Son, New York City, 1919-20. Post-graduate work at Columbia University. Member of American Students Reconstruction Association in France, 1921."

Sherwood Page, Eastern Manufacturing Co., Bangor, Me. Married. Estimating engineer. "Graduated in September, 1918. Worked three weeks for Newport News Shipbuilding and Dry Dock Co., Newport News, Va. Enlisted in Heavy Artillery, Boston, Mass., and finally discharged in December, 1918. Started work for Eastern Manufacturing Co., Bangor, Me., as draftsman in January, 1919, and finished in August, 1920. Started work for West Virginia Pulp and Paper Co., Covington, Va., in September and finished in November. Once more at Eastern Manufacturing Co. in November, 1920 and still here."

Harry L. Peach, 47 Walnut Street, Malden, Mass. "Graduated in September, 1918. Worked for du Pont in Hopewell, Va., until November, 1918. Worked for Wilson & Co., Chicago from November, 1918, to January, 1919. Left to go to California. Returned to Boston in March, 1919. Worked for du Pont in Wilmington, Del. from March, 1919 to September, 1919. Worked for Avery Chemical Co., Lowell, Mass., from September, 1919 to February, 1920. Worked for General Electric in Schenectady from February, 1920 to July, 1920. Worked for United States Rubber Co. from July, 1920 to March, 1921 in Naugatuck, Conn., and Malden, Mass."

Edwin M. Pickop, 25 Capitol Building, Honolulu, Hawaii. Junior engineer, United States Geological Survey, Water Resources Branch. "June, 1919 to November, 1920, in construction engineering department, New Departure Manufacturing Co., surveying, drafting, etc., Bristol, Conn., January, 1921, to present United States Geological Survey. My work is stream gauging, construction of gauging stations and installation of water stage recorders, also office work. When in Honolulu on the station records. In the field about half the year visiting stations. A fine outdoor life, but too lonesome."

H. C. Priest, 88 Thorndike Street, Boston, Mass. Business address, 514 Atlantic Avenue, Boston, Mass. Sales engineer.

James W. Reis, Jr., 318 East Street, New Castle, Pa. Business address, care Young Men's Christian Association, Gary, Ind. Mill worker — open hearths — Illinois Steel Co. "Been in Gary ever since I got discharged from army."

Alan G. Richards, 825 Ashland Avenue, Buffalo, N. Y. "With National Aniline and Chemical Co. at Marcus Hook and Brooklyn plants until May, 1920. Affiliated with Dunlop Tire and Rubber Co., Buffalo, from then until February 15, 1921. Was sent to Canada and England to study tire manufacturing in their plants. Closing down of American plant placed me without position."

Russell H. Savage, 27 Long Avenue, Boston, Mass. "Graduated June, 1921. Out in service one and one-half years. Returning to take up some business courses until things open up. Expect to be located with either Crucible or Carnegie Steel by January 1."

Philip M. Shaw, Harbor Beach, Mich. Business address, 414 West Flesheim Street, Iron Mountain, Mich. Care Michigan Iron, Land and Lumber Co. (Ford). "Served in Air Service in this country. Graduated June, 1921, from University of Michigan. Business Administration Course. Now working in new Ford sawmill at Iron Mountain, Mich."

Theodore Shedlovsky, 77 Westland Avenue, Boston, Mass. Graduate student at Massachusetts Institute of Technology.

Morton A. Smith, 252 Main Street, Great Barrington, Mass. Business address, 210 Thirty-Third Street, Newport News, Va. Inspector. "Left Stute 1918. Came to Newport News three years ago today and am still here, one of the three survivors of

twenty-eight who came. Spent a few months on hull construction in Newport News Shipbuilding and Dry Dock Co., and was an inspector on hull construction for over a year. Have been assistant to superintendent for the past fifteen months.

Russell Storer Smith, 610 Randolph Street, Chicago, Ill. Business address, care Sanitary District of Chicago, 910 South Michigan Avenue, Chicago, Ill. Junior assistant engineer. "After getting out of the army I was with the Massachusetts Highway Department for three months and in July, 1919, came to Chicago with the Sanitary District. For the last twenty months I have been in charge of one of the two experimental sewage treatment plants run by the Sanitary District. Have been working with trade wastes from a large chrome tannery. Have worked especially with the activated sludge process. It is to a great extent pioneer work and very interesting. Have about ten politicians under my direction on the job and if you know politics no more need be said."

Lloyd R. Sorenson, 19 Boyden Street, Dorchester, Mass. Business address, Newport News Shipbuilding and Dry Dock Co., Newport News, Va. Inspector, superintendent's office. "I have been employed as an inspector at Newport News Shipbuilding and Dry Dock Co. since leaving school. My work has been in connection with building battleships "Maryland" and "West Virginia" (now building). I have been closely connected with installation of armor air-testing of all compartments below water line and final completion and trials of ship."

John Stevens, Jr., 401 College Avenue, Appleton, Wis. Business address, care Fox River Paper Co., Appleton. Chemical engineer.

Chester C. Stewart, 6 Sumner Avenue, Medford, Mass. Business address, 8 Beacon Street, Boston, Mass. Consulting chemical engineer. "September, 1918 to August 1919. Led a dog's life, poison gas and dye-stuffs at Marcus Hook, Pa. National Aniline and Chemical Co. Living in Wilmington, Del., helped to raise my spirits. Later moved to Ridley Park, Pa., and roamed with Bob Bolan, '19. Known for our nightly 'Mosquito Dance.' September, 1919 to September, 1920. Sent to Sweden as a fellow to study applied chemistry. Had the experiences of a Gulliver and never lost my standing. Snow baths in 62° Lat. to Sulphuric Acid Plants. Swedish punch to sulphite pulp mills. Spent two months on continent, was a week with 'Erny' Voss, '19, in Copenhagen — was fully acclimated to Berlin and Brussels and then held forth in Paris in due season. Met Tom Nolan, '18, in the Louvre. Felt quite international by the time I got to London. September, 1920 to September, 1921, full-fledged instructor in chemistry at the State. Finished my M.S. work in August. September, 1921, M. Seltzer, '18; C. C. Stewart, '19. Chemical engineers' office, 8 Beacon Street."

W. Pratt Thomas, 3311 Twelfth Avenue North, Birmingham, Ala. Business address, Continental Gin Co., Birmingham. Assistant to shop superintendent. "Entered United States Navy after completing sophomore year at Massachusetts Institute of Technology. Spent twenty-nine months in Navy, being discharged as lieutenant. Two years spent with Continental Gin Co. since discharge from Navy. From October 1, 1921 to December 23, 1921 taking course in business management at University of Chicago at completion of which will return to old position with Continental Gin Co., Birmingham."

Phil R. Thompson, 111 Wheatland Avenue, Dorchester, Mass. Business address, Jordan Marsh Co., Boston, Mass. Assistant department manager. "Left Stute for the service. Joined the Jordan Marsh Co. and have been with them two years now."

Ralph E. Tribou, 956 North Main Street, Montello, Mass. Business address, 1716 Eye Street N. W., Washington, D. C. Junior civil engineer. "Since leaving the 'Stute' I have worked as structural draftsman for the Boston & Albany Railroad. At present I am connected with the Bureau of Public Roads in Washington as junior civil engineer. Not married yet, but engaged."

Raphael Van Neste, 28 Algonquin Street, Boston, Mass. Business address, United Fruit Co., Preston, Oriente, Cuba. Chemist. "Have nothing of interest to tell about but would like to hear from any of the fellows of '19. I have not run across any Tech men in Cuba yet. That dinner at the Lenox must have been like 'old times'."

Donald D. Way, 21 Claremont Avenue, New York City. Business address, 149 Broadway, New York City. Engineer.

Eaton Webber, 35 West North Avenue, Atlanta, Ga. Business address, Georgia Tech., Atlanta, Ga., assistant professor machine design.

Dean K. Webster, Jr., 19 Wyman Street, Lawrence, Mass. Business address, P. O. Box 695, Lawrence. "October to November, 1918, employed by E. I. du Pont de Nemours

& Co. at Hopewell, Va., January 1, 1919 to August 1, 1920, employed by E. I. du Pont de Nemours & Co. in Dye Works at Carney's Point, N. J., August 1, 1920 to date, entering into grain business with father."

Francis A. Weiskittel, 2933 North Charles Street, Baltimore, Md. Business address, 4500 East Lombard Street, Baltimore. Clerk. "Still single and enjoying life. Been going to Law School for two years, taking an evening course. Worked as production clerk for General Electric Co. for first half this year, rest of time spent generally learning in manufactory."

H. S. Weymouth, 59 Free Street, Dexter, Me. Business address, State Highway Department, Augusta, Me. Resident engineer, State Highway Commission.

Henry R. Whiton, 711 National Bank Building, Savannah, Ga. Secretary to Public Utility Manager. "Been in Savannah since December, 1920. Working for d— fine company, Stone & Webster, Inc. All the chances in the world to make good. Savannah is a small town compared with Boston, but just take it from me we believe in having a good time."

Alexis R. Wiren, Russia. Business address, 347 Madison Avenue, New York City. General secretary, Russian Students Christian Association. Married. "The present problem to which I devote my time and in which I was interested while yet at Tech is to find a way to assist the Russian students in obtaining American education and training which will help Russia and future understanding between America and Russia. I hope to meet with success in the not distant future. Right now Tech will have more than fifteen Russian students."

George H. Wiswall, Jr., 167 Mt. Auburn Street, Watertown, Mass. Business address, Slater & Morrill, Inc., South Braintree, Mass. "On leaving the Institute in August, 1919, went with Revere Rubber Co., Providence, R. I. Left there in February, 1921, and went with Slater & Morrill, Inc., shoe manufacturers. Still there. Darned if I know what I am."

Kenneth A. Wright, Fort Mitchell Country Club, Covington, Ky. Business address, 405 Gwynne Building, Cincinnati, Ohio. Manager, Johnson Service Co., Cincinnati Branch.

The following is an announcement made in the *Boston Post* of November 13, 1921. "Miss Suzanne Mandell bride of Tech man. Miss Suzanne Mandell, daughter of the late Mr. and Mrs. William D. Mandell of Boston, and recently of Brookline, was married yesterday to William B. Gagnebin, Tech '19, and the son of Mr. and Mrs. Charles L. Gagnebin of 41 Carlton Street, Brookline. The wedding was in the Second Church of Boston (Unitarian) at Beacon Street and Audubon Circle and the ceremony was performed by the Rev. Eugene E. Shippem, minister of the parish. The bride is a member of the 1914-15 Sewing Circle and of the Vincent Club."

We also wish to make known the marriage of Miss Eunice Russell, daughter of Mr. and Mrs. William Walker Russell, to Mr. Charles Wayland Drew on Tuesday, the sixth of December, one thousand nine hundred and twenty-one, Minneapolis, Minn. At home 2012 Bryant Avenue South, Minneapolis, Minn.

Albert B. Reynolds has now made his headquarters with the Engineering Department of the Western Electric Company, 6 D, 463 West Avenue, New York City.

The following excerpts are from a letter from George G. Fleming of the Class of '19 to Charles E. Locke: "For the past three weeks I have been a member of the United States Rubber Company at the G. & J. Tire Company, Indianapolis, Ind. This plant makes all the auto inner tubes for the United States Rubber system with a capacity of forty thousand tubes per day. In addition motorcycle, bicycle and repair sundries are made.

I became connected with the company through a 'blind' ad in a local paper for a college graduate to take charge of a planning department. Though I knew nothing of the rubber game, I was picked out of some seven hundred applicants for the position. This might be considered proof of ability to write a convincing letter, but I suspect that the letters M. I. T. were the deciding factor, plus my willingness to work cheap, since I thought I could live at home.

I am known as a production planning manager, being charged with maintaining a monthly manufacturing schedule sent out from New York. I am expected to put the department on its feet. At present I am looking over the system in the tire factory at Detroit. This present job is a long cry from mining or metallurgy, but I considered I had best be doing something and I can see where I will obtain valuable experience."

Among other notices, we have received one from Rochester, N. Y., dated December 2:



"Johns on Board of Examiners.—The Board of Education today appointed Alfred A. Johns a member of the board of examiners to succeed J. Ernest Woodland, who died several weeks ago. Mr. Johns was graduated by West High School in 1911 and by the University of Rochester in 1915. In 1919 he was graduated by the Massachusetts Institute of Technology, and that year he began teaching in Mechanics Institute of which he is now dean. He served a year in the army during the war. The other member of the board is Prof. William J. Merrell of the university."

Announcement made November 23, 1921, Boston, Mass., says: "B. U. Junior will wed Tech '19 man.—Winifred M. Dodge, a junior at the Boston University College of Liberal Arts, announced yesterday to her classmates her engagement to Roderic M. Blood, Massachusetts Institute of Technology, '19. Miss Dodge is the daughter of Mrs. Edward T. Sullivan, wife of the pastor of Trinity Episcopal Church in Newton. Miss Dodge was a student at Smith College for her first two years at college, transferring to Boston University last year, where she joined the national Kappa Kappa Gamma Society."

#### ADDRESS CHANGES

Louis A. Brown, Jr., Room 21, 14 Maiden Lane, New York City; Henry J. Bruno, 101 Coolidge Street, Brookline, Mass.; Douglass M. Burckett, 291 Beacon Street, Boston, Mass.; John Stanley Carter, 96a Fairmont Street, Malden Mass.; Blake Darling, 22 Keiffer Street, Brookline, Mass.; Lewis B. Abbott, 122 Ames Building, Boston, Mass.; Samuel Heyman, 10264 Cameron Avenue, Detroit, Mich.; Charles M. Herrick, Baton Rouge Electric Co., Baton Rouge, La.; Frederick J. Hopkinson, 95 Flower City Park, Rochester, N. Y.; Frank C. Hoyt, Department of Physics, University of Wisconsin, Madison, Wis.; Lieut. William H. Little, 1st Cavalry, Douglas, Ariz.; David P. Minard, 6455 Greenwood Avenue, Chicago, Ill.; Mason S. Noyes, 94 Dean Street, Taunton, Mass.; William K. Pike, 54 Massachusetts Avenue, Cambridge, Mass.; Alice R. Ratcliffe, 1 Mt. Vernon Square, Boston, Mass.; Frederick J. Rasmussen, 598 West 177th Street, New York City; Edward L. Sache, Room 340 Kimball Building, 18 Tremont Street, Boston, Mass.; Merritt P. Smith, North Scituate, R. I.; Frederick C. Spooner, Box 57, Furnace, Mass.; Leon H. A. Weaver, 72a Highwood Terrace, Weehawken, N. J.; Murray M. Whitaker, 210 Simple Street, Oakland, Pittsburgh, Pa.; Henry E. Wilson, Paul Ray Apartments, Vallejo, Cal.

1920

KENNETH E. AKERS, *Secretary*, 54 DWIGHT STREET, BROOKLINE, MASS.

When you men read these meagre notes, Christmas will have come and gone, so while I can't very well say I wish you all a "Merry Christmas," I can look ahead a few weeks and trust that you all did have one of the best Christmas times ever. Let's start the New Year right by writing to "Ken" Akers.

Yes, I must admit that letters to me the past two months have been very few. The majority of them being either wedding announcements or engagements — "more of which later." Also, I have a sneaky feeling that I have mislaid a few of those that did come to me — so if any of you wrote me, and your bit of news did not get in these columns, accept my apologies, and give me one more try. I have a new system now, and I don't propose to let any more letters fall by the wayside. Now, for what little news I have picked up here and there.

I think we all knew of Percy Bugbee's wedding last June. He is now working with the National Fire Protection Association on Milk Street and his work has attracted the attention of many, even to the extent of having Boston papers write editorials on some of Perk's writings. He and his wife are living on Commonwealth Avenue, Allston.

Bill Preston wrote me last June that he was off for Porto Rico for a vacation. Pretty soft, Bill.

Word has reached me of Andrew Gensen's marriage to Helene May Sweeney of Winthrop Highlands last August. I'm sure we all wish him the best of luck in guiding his barge of matrimony. He and his wife are living in Bexley Hall, Cambridge.

Erwin Harsh is now the proud possessor of a son, John Erwin, born November 1, 1921. Is he going to be a civil engineer? His dad is a good one.



George "Pierpont" Morgan wrote me a short note from Beaumont, Texas, where he is still located with Stone & Webster.

Hosea Smith is with the Atlantic Dyestuff Co. in Portsmouth, N. H. He is jumping right along in salary and work.

"Fred" Zurwelle has also joined the ranks of our benedicts. He was married November 26, 1921, to Edna May Hamblin, of Oak Bluffs, Mass. Congratulations, Fred!

"Bart" Bartholomew has likewise "slipped" under the spells of Janet Bray Wright of Los Angeles. "Bart" always did like California. He was married November 24, 1921, in that famous city in California, recently made more famous.

"Bill" Hooper now comes forward and takes his medicine, or in other words, he has decided to risk his future with Gertrude May Haynes of Maynard. Their engagement has been announced, with no definite date for the wedding as yet.

The *Chicago Tribune* of October 11, 1921, brings us the news of Merrill Knox's engagement. He is to marry Helen Johnson of Oak Park, Chicago.

"Jimmy" Gibson has returned to Newton and has opened up a real estate office with all the "fixin's."

L. D. Wilson has left the Beacon Oil, and is now working with J. B. French, railroad engineers, in Brooklyn, N. Y.

Jack Nolan returns to the Canal Zone the first of January to resume his work there.

Many of your checks for athletics were cashed only last week. I kept them till I hoped all were in. I trust you have not had a hard time making your bank books balance.

Allan Rowe was very grateful for 1920's help. My first check to him came to \$35, and I am to write one this week for \$10.50 more.

If these notes are to be longer, I must have letters! Don't forget, Yours for 1920.—  
"KEN" AKERS.

#### 1921

R. A. ST. LAURENT, *Secretary*, 754 Morton Street, Mattapan, Mass.

Fellows of 1921! Where are *you*? We have heard only little from you. If you have not been written to as yet, remember the Class is large and your help is needed. Communicate with us as to your exact whereabouts and doings. A little effort and only a post card is needed on your part. Do it *now*.

A recent card from "Red" Bachmann, X, says: "Dear St.: Seeing my name listed in the *TECHNOLOGY REVIEW*, I'll set you straight. I've been here in the sticks at Brunswick since July, working for the Pejepscot Paper Co. One of my bosses is 'Shorty' Carr, '18. 'Dutch Elz,' '18, and 'Duke' Winchester, '21, who recently married himself, are also here. As ever, Albert E. Bachmann, 176 Maine Street, Brunswick, Maine."

Yes, "Duke" Winchester, II, is married. From the *New York Times* of November 27, we read: "The marriage of Miss Adelaide Perry Winne, daughter of Mr. and Mrs. Walter Marshall Winne, to Marshall Hayden Winchester, son of Howard Winchester of Manchester, Mass., took place last night at the home of the bride's parents, 255 Fort Washington Avenue. Dr. John McKay of the North Presbyterian Church officiated. The bride was graduated from Vassar in the Class of 1920 and the bridegroom from the Massachusetts Institute of Technology in the Class of 1921, as a mechanical engineer. After a honeymoon in the White Mountains Mr. and Mrs. Winchester will make their home in Brunswick, Maine."

"Jim" Downey, IX-B, has just recently finished up at the Institute and awaits a job along with his sheepskin. George Dandrow, IX-B, has left school and has gone into business.

"Carl" M. Cohen, X, who has been making good selling stocks, quality unknown but quantity large, is leaving that game very soon and going into the Patent Office at Washington. While there he contemplates studying patent law at Georgetown University.

"Al" Addicks, X, has gone into the real estate business with his father in Philadelphia. His address is 106 South 36th Street.—"Romney" Mellen, III, is in New Mexico continuing the work of his thesis, which was "The Concentration of Lead Oxide Ores from New Mexico."

"Reg" Smithwick, III, is plugging at Harvard Medical School. Reports from

exams to date give him an average of not less than 95 per cent in all subjects taken. Our hats are off to you, Reg.

An interesting letter from "Bunk" Talcott, XV, is quoted in full:

"3 Clive Row, Calcutta.

Dear Ray: It is a long way but I got here in time — and I had *some time* getting here. The time I spent in England, France, Switzerland and Italy on the way out was one round of pleasure, a new and interesting experience. It is a great country and I'd like to take it all right over again.

The trip out here from Marseilles was a wonder — some rough weather, and believe me some hot weather. We nearly burned up in the Suez Canal and going through the Red Sea. But if you just let the old juice run off you and don't attempt to keep cool you don't mind it a bit.

I landed at Bombay and came overland to Calcutta. It was a surprise to me to find such a verdant country. I had always fancied the north central India as more or less of a desert. I imagine I saw it at its best for it was just after the monsoons and everything was fresh and green and very prosperous looking — that is, the country itself. The paddy fields are so green and well kept that they help the appearance of the countryside.

I haven't been in India long enough yet to form much of an impression, but what I have is very favorable. I think and feel that I shall like it immensely. I'm getting started here at a time when everything is rosy. The hot weather and the rains are over till April and during the interval I will have a chance to get acclimated. It is marvelous here now — a bit hot in the middle of the day, but the evenings and the mornings are just perfect. You dress light, though, and the noonday heat doesn't bother you.

My work is just what I wanted. I'm in the steamer department attempting to be a real shipper; at present I'm not in any one position, but sort of nosing around and picking up all the information that I can. The detail work is all done by *babus* or "Indian gentlemen" and the sahib's duty is to check up on them and direct. They are good workers, but you can't trust them a bit. They will add 2+2 and call it 8 just so long as they make their figures neat and place them well on the paper. The latter is of course an exaggeration, but the idea is correct. It is exasperating at times, but I guess I'll get used to it.

The firm is run entirely by Scotch, English and Americans. The first two groups are the mill assistants and the Americans hold the reins. There are thirteen Americans here at present and Dick McKay has not arrived. Dick ought to get in about the last of this month or possibly not until the last of next month. Ken Reid is here and handling the "Armco" Department. There are eight Tech men here running from the Class of '14 up — all good boys. The English and what Scotchmen I know seem a good sort — a lot of the latter are sure hard, two-fisted drinkers. They peg away at night and never turn a hair, or rather hold it very well. By the way, liquor is quite expensive out here, costing for the best brands about \$1.35 a quart.

The company furnish us with damned fine quarters. Reid, myself and two others are opening a new establishment in Calcutta next week, and it is sure the berries. We are going to be very well fixed and enjoy its comforts immensely.

Well, enough about India and myself. How are you? What are you doing? Are you married? Does your father smoke? Has Wint Dean a divorce? Does Doc Talbot make a good dean? Is there still an Institute? If so are there any new undergraduate activities — is the Walker Memorial dining service losing money? Does the orchestra need an office in Walker? Are there any more squash courts? Has Capt. Officer? Does Doc Rowe still preside? Has Chuck Brokaw made off with any money? Who runs the show — "Stine"? Does the Voo-Doo whoop-garoo? Who won Field Day, and has Jake made a report on the *mean way* he gave out tickets to Tech Night, etc. I sure would appreciate any news you can send me, old top. I think, Ray, we could carry on a mutually beneficial correspondence and also a very pleasing letter friendship.

Give my regards to any of the gang you run into and wish them all a Merry Christmas and a Happy New Year. The best of health, wealth, luck, love and success to yourself and the heartiest of season greetings, sincerely, *Bunk*.

P.S. I saw some of the Dean's monkeys the other morning out in the jungle, but I didn't have any bananas, so I couldn't prove out his monkey story for myself.

*Luck to the whole d—— Class —* The largest and most active not to mention attractive."

John Healy, Jr., X, has recently left his father's drug business and is in the laboratory of the Merrimac Chemical Co., South Wilmington, Mass. We bumped into him and played football with him noontimes.

Prof. "Joe" Mahoney, X, is teaching Freshman Chemistry and doing analytical work on the side out at Boston College.

"Brad" Williams, XV, is engaged. From the *Chicago Tribune*: "Mrs. Robert E. Blackwell, 801 Simpson Street, Evanston, yesterday announced the engagement of her daughter Zelma Staly to Bradley Williams, son of Mr. and Mrs. Carl F. Williams, 2233 Orrington Avenue, Evanston. Miss Staly was graduated from Northwestern University in 1920 and Mr. Williams was graduated from the Massachusetts Institute of Technology last spring."

Engaged also is Alan Osbourne, XIII. *The Boston Transcript* says: "Dr. Evangeline W. Young announces the engagement of her niece, Miss Marian Young to Alan Osbourne, of Palo Alto, California, eldest son of Mr. and Mrs. Lloyd Osbourne and step-grandson of Robert Louis Stevenson. Mr. Osbourne, who served in the Army during the World War, is a graduate of Pomona College, Claremont, Calif., and of the Massachusetts Institute of Technology, Class of 1921."

George Atkinson, X, is with the Standard Oil Company in Boston awaiting an opening in their foreign field of work.

Joe Lurie, X, has changed jobs several times this summer. These changes have been voluntary in his desire to learn about the rubber industry from several angles. He is now with the Clifton Manufacturing Co., 65 Brookside Avenue, Jamaica Plain, Mass. He is living at home.

Warren K. Brimblecom, ex-'21, has married. The *Boston Herald* quotes: "Mr. and Mrs. Martin Liske Chivers of Maple Avenue, Newton, announce the marriage of their daughter, Hazel May, to Mr. Warren Kingsbury Brimblecom of Braemore Road, Newton. The ceremony was performed on Saturday evening October 8, by Rev. C. W. Brashares of the Newton Methodist Episcopal Church. Mr. and Mrs. Brimblecom will live at 17 Montpelier Street, Springfield, Mass."

Ivan Chambers, X, is doing graduate chemistry work at the Stute.

"Wed" Wetherell, II, is instructing in Machine Shop Practice at the New London Technical High School. Carl Leander, X, and E. A. Sears, XV, are there also. The school is co-educational and Carl is popular.

"Chuck" Barton, X, has completed work for his degree and the other day was interviewing Lobby Lobdell, '17, for a job.

#### CHANGES OF ADDRESS

R. B. Crawford, XIV, Chi Psi Lodge, 829 Hudson Street, Hoboken, N. J.; John W. Barrigar, 3d, XV, 6012 Clemens Avenue, St. Louis, Mo.; Glenn H. Easton, XIII-A, 274 St. John's Place, Brooklyn, N. Y.; Paul L. Hanson, II, 11 Cutler Street, Waverly, Mass.; George F. Gokey, Jr., XV, 1859 Sampson Road, Cleveland, Ohio.

The first of these is the fact that the United States is a young nation, and that its history is a history of growth and expansion. It is a history of a people who have been able to adapt themselves to a new and changing environment, and who have been able to maintain their identity and their values in the face of a world that has been constantly changing.

The second of these is the fact that the United States is a nation of immigrants. It is a nation of people who have come from many different parts of the world, and who have brought with them their own cultures, languages, and customs. This has made the United States a melting pot of different peoples, and has given it a unique character and a rich heritage.

The third of these is the fact that the United States is a nation of pioneers. It is a nation of people who have been able to overcome the difficulties of a new and uncharted land, and who have been able to build a new and better life for themselves. This has made the United States a nation of opportunity, and has given it a reputation for freedom and independence.

The fourth of these is the fact that the United States is a nation of leaders. It is a nation of people who have been able to lead the world in many different ways, and who have been able to make a difference in the lives of many people. This has made the United States a nation of influence, and has given it a reputation for leadership and innovation.

The fifth of these is the fact that the United States is a nation of values. It is a nation of people who have been able to maintain their values in the face of a world that has been constantly changing. This has made the United States a nation of principles, and has given it a reputation for integrity and honesty.

The sixth of these is the fact that the United States is a nation of dreams. It is a nation of people who have been able to dream of a better life, and who have been able to make it a reality. This has made the United States a nation of hope, and has given it a reputation for optimism and ambition.

The seventh of these is the fact that the United States is a nation of progress. It is a nation of people who have been able to move forward, and who have been able to make a difference in the world. This has made the United States a nation of achievement, and has given it a reputation for progress and innovation.

The eighth of these is the fact that the United States is a nation of peace. It is a nation of people who have been able to maintain peace in the face of a world that has been constantly changing. This has made the United States a nation of harmony, and has given it a reputation for peace and stability.

The ninth of these is the fact that the United States is a nation of justice. It is a nation of people who have been able to maintain justice in the face of a world that has been constantly changing. This has made the United States a nation of fairness, and has given it a reputation for justice and equity.

The tenth of these is the fact that the United States is a nation of freedom. It is a nation of people who have been able to maintain freedom in the face of a world that has been constantly changing. This has made the United States a nation of liberty, and has given it a reputation for freedom and independence.

The eleventh of these is the fact that the United States is a nation of unity. It is a nation of people who have been able to maintain unity in the face of a world that has been constantly changing. This has made the United States a nation of solidarity, and has given it a reputation for unity and cooperation.

The twelfth of these is the fact that the United States is a nation of strength. It is a nation of people who have been able to maintain strength in the face of a world that has been constantly changing. This has made the United States a nation of power, and has given it a reputation for strength and resilience.

The thirteenth of these is the fact that the United States is a nation of wisdom. It is a nation of people who have been able to maintain wisdom in the face of a world that has been constantly changing. This has made the United States a nation of knowledge, and has given it a reputation for wisdom and insight.

The fourteenth of these is the fact that the United States is a nation of compassion. It is a nation of people who have been able to maintain compassion in the face of a world that has been constantly changing. This has made the United States a nation of empathy, and has given it a reputation for compassion and understanding.

The fifteenth of these is the fact that the United States is a nation of love. It is a nation of people who have been able to maintain love in the face of a world that has been constantly changing. This has made the United States a nation of affection, and has given it a reputation for love and kindness.

The sixteenth of these is the fact that the United States is a nation of hope. It is a nation of people who have been able to maintain hope in the face of a world that has been constantly changing. This has made the United States a nation of optimism, and has given it a reputation for hope and faith.

The seventeenth of these is the fact that the United States is a nation of courage. It is a nation of people who have been able to maintain courage in the face of a world that has been constantly changing. This has made the United States a nation of bravery, and has given it a reputation for courage and valor.

The eighteenth of these is the fact that the United States is a nation of honor. It is a nation of people who have been able to maintain honor in the face of a world that has been constantly changing. This has made the United States a nation of dignity, and has given it a reputation for honor and respect.

The nineteenth of these is the fact that the United States is a nation of integrity. It is a nation of people who have been able to maintain integrity in the face of a world that has been constantly changing. This has made the United States a nation of honesty, and has given it a reputation for integrity and trustworthiness.

The twentieth of these is the fact that the United States is a nation of justice. It is a nation of people who have been able to maintain justice in the face of a world that has been constantly changing. This has made the United States a nation of fairness, and has given it a reputation for justice and equity.

The twenty-first of these is the fact that the United States is a nation of freedom. It is a nation of people who have been able to maintain freedom in the face of a world that has been constantly changing. This has made the United States a nation of liberty, and has given it a reputation for freedom and independence.

The twenty-second of these is the fact that the United States is a nation of unity. It is a nation of people who have been able to maintain unity in the face of a world that has been constantly changing. This has made the United States a nation of solidarity, and has given it a reputation for unity and cooperation.

The twenty-third of these is the fact that the United States is a nation of strength. It is a nation of people who have been able to maintain strength in the face of a world that has been constantly changing. This has made the United States a nation of power, and has given it a reputation for strength and resilience.